

TRANSACTIONS
OF THE
DEPARTMENT OF AGRICULTURE,
STATE OF ILLINOIS,
WITH REPORTS FROM
COUNTY AGRICULTURAL BOARDS,
FOR THE YEAR 1879.

EDITED BY
S. D. FISHER, SECRETARY.

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LETTER OF TRANSMITTAL.

To his Excellency, SHELBY M. CULLOM, Governor of Illinois:

SIR:—I have the honor to transmit herewith, the report of the State Board of Agriculture. Also sundry papers relating to Agriculture, for the year 1879:

Very Respectfully,

S. D. FISHER, *Secretary.*

SPRINGFIELD, March 1880.

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DEPARTMENT OF AGRICULTURE.

MEMBERS OF THE STATE BOARD FOR 1879-80.

<i>President</i>	J. R. SCOTT.....	Champaign
<i>Ex-President</i>	D. B. GILLHAM.....	Atton
<i>Secretary</i>	S. D. FISHER.....	Springfield
<i>Treasurer</i>	JOHN W. BUNN.....	Springfield

VICE-PRESIDENTS.

1st Dist.—Lewis Ellsworth.....	Naperville	11th Dist.—David E. Beaty....	Jerseyville
2d “ H. D. Emery.....	Chicago	12th “ J. M. Epler.....	Virginia
3d “ John P. Reynolds.....	Chicago	13th “ Wm. M. Smith.....	Lexington
4th “ Geo. S. Haskell.....	Rockford	14th “ Wm. Voorhies, Jr.....	Voorhies
5th “ J. L. Moore.....	Polo	15th “ E. H. Bishop.....	Ellingham
6th “ Samuel Dysart... ..	Franklin Grove	16th “ B. Pullen.....	Centralla
7th “ Charles Snoad	Joliet	17th “ M. T. Stookey.....	Belleville
8th “ Emory Cobb	Kankakee	18th “ Jas. M. Washburn ..	Carterville
9th “ D. W. Vittum, Jr....	Canton	19th “ John Landrigan.....	Albion
10th “ Samuel Douglas.....	Monmouth		

LIST OF COUNTIES

COMPRISING CONGRESSIONAL DISTRICTS IN ILLINOIS.

FIRST DISTRICT—The First, Second, Third, Fourth, Fifth, Sixth and Seventh wards of the City of Chicago, the towns of Hyde Park, Lake, Lyons, Riverside, Lemont, Pulos, Worth, Calumet, Orland, Bremen, Thornton, Rich and Bloom, in Cook county, and the county of DuPage.

SECOND DISTRICT—The Eighth, Ninth, Tenth, Eleventh, Twelfth, Thirteenth, Fourteenth, and Fifteenth wards of the City of Chicago.

THIRD DISTRICT—Sixteenth, Seventeen, Eighteenth, Nineteenth and Twentieth wards of the City of Chicago, the towns of Cicero, Proviso, Jefferson, Leyden, Lake View, Evanston, Niles, Maine, Elk Grove, Schaumburg, Hanover, Barrington, Palatine, Wheeling, Northfield and Newtner, in the county of Cook and the county of Lake.

FOURTH DISTRICT—Kane, DeKalb, McHenry, Boone and Winnebago.

FIFTH DISTRICT—Stephenson, Jo Daviess, Carroll, Whiteside and Ogle.

SIXTH DISTRICT—Lee, Bureau, Putnam, Henry and Rock Island.

SEVENTH DISTRICT—LaSalle, Kendall, Grundy and Will.

EIGHTH DISTRICT—Kankakee, Iroquois, Ford, Livingston, Woodford and Marshall.

NINTH DISTRICT—Stark, Peoria, Knox and Fulton.

TENTH DISTRICT—Mercer, Henderson, Warren, Hancock, McDonough and Schuyler.

ELEVENTH DISTRICT—Adams, Brown, Pike, Calhoun, Greene and Jersey.

TWELFTH DISTRICT—Scott, Morgan, Cass, Menard, Sangamon and Christian.

THIRTEENTH DISTRICT—Mason, Tazewell, McLean, Logan and DeWitt.

FOURTEENTH DISTRICT—Macon, Piatt, Champaign, Douglas, Coles and Vermillion.

FIFTEENTH DISTRICT—Edgar, Clark, Cumberland, Moultrie, Shelby, Ellingham, Jasper, Crawford and Lawrence.

SIXTEENTH DISTRICT—Montgomery, Fayette, Bond, Clinton, Washington, Marion and Clay.

SEVENTEENTH DISTRICT—Macoupin, Madison, St. Clair and Monroe.

EIGHTEENTH DISTRICT—Randolph, Perry, Jackson, Union, Williamson, Johnson, Pope, Massac, Pulaski and Alexander.

NINETEENTH DISTRICT—Richland, Wayne, Edwards, Wabash, Jefferson, Franklin, Hamilton, White, Saline, Gallatin and Hardin.

AN ACT IN RELATION TO AGRICULTURE.

AN ACT to amend section one (1) of an act entitled "*An Act to revise the law in relation to the Department of Agriculture, County Agricultural Boards and Agricultural Fairs.*" Approved March 27, 1874, in force July 1, 1874. Approved April 9, 1875, in force July 1, 1875. Approved May 29, 1879, in force July 1, 1879.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly,* That section one (1) of an act entitled, "*An act to revise the law in relation to the Department of Agriculture, County Agricultural Boards, and Agricultural Fairs,*" approved March 27, 1874, in force July 1, 1874, approved April 9, 1875, and in force July 1, 1875, be amended so as to read as follows:

SECTION 1. The Department of Agriculture, for the promotion of agriculture and horticulture, manufacturers and the domestic arts, shall be continued, and shall be managed by a board, styled, "The State Board of Agriculture," to consist of a president, and one vice-president from each congressional district in this State, and of the last ex-president of the State Board of Agriculture; said president and vice-presidents to be elected on the fair grounds on the first Wednesday of the annual State fair in 1880, and every two years thereafter on Wednesday of the week of the State fair, by delegates or alternates chosen by the several county, union or district agricultural boards, in counties where such boards exist, and by the board of supervisors, or the county board, as the case may be, in counties where no agricultural board exists; each county to be entitled to three delegates, and no more. *Provided*, that in counties having more than one agricultural organization, which shall have complied with the provisions of this act, said delegates shall be chosen by the several county, union or district agricultural societies, in such manner as the various organizations may themselves agree, if they fail in agreeing, then the State Board of Agriculture shall prescribe. The members of the State Board of Agriculture shall enter upon the duties of their office, on the second Tuesday of January succeeding their election, and shall hold their office for two years, and until their successors are elected and enter upon their duties. *Provided*, that in case any such county, union or district board shall have failed, or shall hereafter fail to hold fairs, or otherwise comply with the provisions of section eight (8) of this act, for three consecutive years, such board, shall forfeit all right to benefits accruing under section 13 of this act, and any other agricultural association which may have complied, or which may comply with the provisions of this act, shall be entitled to such benefits.

APPROVED May 29, 1879.



SEVENTEENTH ANNUAL REPORT

TRANSACTIONS OF THE ILLINOIS STATE BOARD OF AGRICULTURE.

ROOMS DEPARTMENT OF AGRICULTURE,
SPRINGFIELD, Tuesday, 10 A. M. January 14, 1879. }

The State Board of Agriculture elect met and was called to order by the retiring President, D. B. Gillham.

Upon call of the roll the following members answered to their names: President D. B. Gillham, President elect J. R. Scott, Vice Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Stookey, Washburn and Landrigan.

The minutes of the last day's session (Thursday, January 9, 1879,) of the retiring Board were read and approved.

The retiring President, D. B. Gillham, then introduced J. R. Scott, President elect, who, upon taking the chair, addressed the Board as follows:

PRESIDENT'S ADDRESS.

Gentlemen of the State Board of Agriculture:

In compliance with the time-honored custom of those elected to the honorable and responsible position which I now occupy as President of the Illinois State Board of Agriculture, it becomes my duty, as well as my pleasure, to present to you my views regarding the interests and management of the Department entrusted to our care, as well as our duties and responsibilities to those whom we represent.

It is needless for me to call your attention to the magnitude of the interests involved in an effort to promote the advancement of agriculture, horticulture, manufactures and domestic arts in the leading agricultural State of the Union.

The State, through the Legislature, has been very liberal, and given much latitude to the operations of the Board, in the the act creating the same, leaving a free exercise of our better judgement in the promotion of the interests involved, and thereby increasing the responsibility of this Board.

The State has been very liberal in providing suitable and elegant rooms and accommodations for the Board, in the State House, and in granting liberal appropriations for the promotion and advancement of the important interests entrusted to the Department of Agriculture.

STATE FAIR.

One of the more prominent methods for the promotion of the agricultural interests has been, and will be for some years, the exhibition of the Annual State Fair.

I have no suggestions to make as to the classification of premiums, believing that the experience and good judgment of the board will make any changes necessary for the promotion of the several departments.

The question of locating the fair for the next two years will demand your attention at this meeting. The increasing accommodations required each year for the extensive exhibits in the several departments, and the large amount of receipts necessary to cover the expenses and premiums of the Illinois State Fair, makes the matter of location one of vital importance.

It is believed that the board will properly consider the claims of sections of the State most in need of the benefits to be derived from the annual exhibitions, and decide upon a point accessible to the greatest number of agriculturists and those most interested in this great industrial exhibit of the State.

Some of the most prominent and experienced members of the board have expressed themselves as favorable to the selection of the most accessible railroad centre in each of the three grand divisions of the state, and the holding of the State Fair in the Northern, Central and Southern grand divisions in successive order, thus giving each portion of the State the benefit of the fair at frequent and regular intervals. This will confirm the impression in all portions of the State of the usefulness and importance of the exhibition, and justify the claim to be called a State Fair.

It has been suggested that this action by the board would be sufficient inducement to the localities selected to provide the most ample and complete arrangements for the increasing demands of the State Fair, which are so much needed for the comfort and convenience of visitors and exhibitors and the management.

COUNTY AND DISTRICT FAIRS.

The rapid growth of county and district fairs throughout the State is a matter of great surprise to all who have examined the statistics of the past few years, and the increasing popularity of these annual exhibitions with farmers and manufacturers is strong proof of the necessity of their continuance and prosperity.

The necessity of giving additional encouragement and assistance to these most useful organizations cannot be too strongly advocated; and suggestions, the result of the experience of this Board in the apportionment of premiums and providing attractions of the most instructive character to the industrial classes, would, I doubt not, be received by the managers in the same spirit that prompted the giving of them. The large amount of \$230,300 was offered in premiums by the Agricultural Fairs of the State in 1877, and probably a larger sum for the fair season which has just closed. A proper distribution of this vast amount of money annually, to the end that all the departments of agriculture and the several industries may be encouraged in proportion to

their relative importance in advancing the common interests, would result in incalculable benefit to the State. Some of the most important interests are overlooked by many societies in the attempt to provide only sensational attractions and thus increase the gate receipts. This procedure, in a term of years, has always resulted in a sad failure.

The admitted advantages of an annual fair in each county are so great that in my opinion this Board should spare no reasonable effort to have a progressive Fair Association at work in each county in the State; and to bring about this result I would suggest that our Secretary and the Vice Presidents residing in districts in which there are counties having no such organization be authorized to visit these counties early in the season and interest the citizens thereof in the formation of a County Agricultural Board and the holding of a fair in 1879.

ELECTIONS.

There has been some criticism in certain districts as to the mode of electing members of this board, and I would suggest for your consideration that some plan be specified in the by-laws of the board for holding such election as will ensure the recognition of the expressed choice of the delegates from the several congressional districts.

AGRICULTURAL HISTORY.

The rapid strides forward in the development of our agricultural resources each year in this State are realized by but few of our people, and many valuable items of general interest to the agriculturalists of this and other States are soon forgotten for want of some well arranged plan for preserving in concise form such history for publication.

The present and prospective work of the board is of sufficient importance to absorb the time and thought of your President. A comprehensive and extended paper containing the more important items of the agricultural history of the State each year would require as much time and labor as should be expected of a member of this board. The increasing clerical work of the department will continue to absorb all the thought and energies of our Secretary, and the imposing of this additional service on this officer is not recommended.

The annual report of the department would preserve this interesting matter, disseminate the same to the best possible advantage among many thousands of our best agriculturalists and others most likely to appreciate information of the character indicated. The appointment of a member to prepare and read such a paper to the board each year at the annual meeting, is suggested for your consideration.

OUR MERCHANTS.

The generous recognition by the Illinois State Board of Agriculture of the producers, breeders and manufacturers, and the encouragement given to these industries by the liberal premiums offered for their displays at the State Fair, has done much to develop these interests and benefit all classes by making the public familiar with the most approved labor-saving machinery, the best results to be obtained in the

cultivation of new and valuable products of the soil, and conversant with the wonderful and rapid advancement made in the improvement of all pure breeds of farm animals.

There is another class—the merchants—who contribute much to the financial success of our annual exhibitions by their attendance at the Fair, and generally perform the greater part of the work and pay liberally for fitting up the grounds and buildings for the State Fair.

In a general way several lines of business are recognized in our list of premiums, and are usually most creditably represented.

The advisability of more fully recognizing the leading lines of business by offering a cash premium and diplomas for the best display of merchandise is suggested for your consideration.

MANAGEMENT OF FAIRS.

Allow me to make a few suggestions as to the future management of our annual exhibitions.

In my judgement the exhibition should be confined exclusively to such matters as will tend to the advancement of agriculture, horticulture, manufacture and the domestic arts, to the exclusion of all side shows, cheap auctions, catch-penny devices, that only tend to attract the attention from the legitimate objects of the Fair and to annoy, demoralize, deceive and swindle all who come in contact with them.

The management, in my opinion, should allow nothing on the Fair Grounds except that which will contribute to the legitimate object of the exhibition, and every precaution should be taken to ensure the comfort and protection of visitors and exhibitors.

AWARDING PREMIUMS.

It seems that the great importance of a just and competent award of our premiums would justify a departure from the old custom of selecting committeemen, at least in the more important department of live stock, where the competition is sharp.

It is important that some means should be devised to secure competent men to act as judges, whose attendance can be depended upon, and relieve the Board of the necessity of selecting from the visitors men who are frequently not as skillful as the good reputation of the Board should require.

WINTER MEETING EXHIBIT.

The exhibits of farm products made at the time of our winter meeting will demand your attention. This display, if held, should be in connection with the fat stock show. The propriety of adopting some plan of improving the character of this exhibition is recommended.

MUSEUM.

The Agricultural Museum promises to be one of the chief attractions of the department, and its preparation and arrangement is one of great importance. I would suggest the propriety of taking some steps to provide a curator, who might very properly be a lady having clerical qualifications.

LIBRARY.

The Library of the Agricultural Department has recently been materially enlarged, and now includes many of the standard works of general reference. The addition of any new works relating to agriculture should be made from time to time, and every effort should be made to increase its usefulness.

FAT STOCK SHOW.

The continuance of the exhibition of fat stock, so successfully inaugurated in December last, is most earnestly commended to your favorable consideration. The field being an entirely new one, so far as any experiments in this country were concerned, the Board necessarily labored under many disadvantages in the inauguration of this enterprise. The value to the great meat growing interest of the State suggested and seemed to demand something of this kind. The experience of the Board will doubtless enable them to make many valuable changes and introduce additional features, so as to make the show more attractive and more successful.

In connection with this show it has suggested itself that a very attractive, profitable and appropriate addition might be made in making at the same time an exhibit of the dairy products of the country. These products are rapidly growing to be one of the first agricultural interests of our own State, and are deserving of more notice from our Board than they have heretofore received. The season of the year at which our annual fairs are held makes it difficult to bring out a good exhibit of these products. With the co-operation of the dairymen, a very large display of dairy products could be brought out, and would be an attractive feature, which might very properly be added to the show.

I would also suggest that an opportunity be offered for the exhibition of all classes of machinery and implements used for preparation of food, and in the handling and butchering of stock.

CROP REPORTS.

The collection, compilation, publishing and distributing of statistics in reference to the crops of our State, is a work of great magnitude and importance, and if carefully done, of great value. The popular appreciation of the past efforts of the Board in this direction would seem to encourage and justify you in its further prosecution.

The collection of statistics in reference to the industries, of which this Board might fully take cognizance, opens up a vast field of work,

and I think it is the duty of this Board to prosecute with care this line of inquiry as far as the Legislature will furnish the means so to do. It is my opinion that this will be done so far as it is thought that our work is diligently and carefully performed.

DRAINAGE.

This subject is closely allied with our work and should receive due consideration; owing to the level and flat condition of the surface of much of our fertile lands, the subject of drainage becomes one of the greatest importance. The people by the adoption of the amendment to the constitution, at the recent election, have taken a grand step in the right direction; and if the Legislature will now make an efficient law (which I have no doubt they will do) in reference to drainage, a new era will be opened up in the management of some of our most productive lands. Any statistics and information which the Board may be able to collect and give to the public on this subject, will be of great importance and highly appreciated.

I would suggest the appointment of a committee to memorialize the Legislature, presenting such facts, connected with the workings of this department as will enable them to form a just opinion of the work performed and the necessities of the department so as to make such suggestions in the matter of legislation in reference to the interest that we represent, as they may deem proper.

Mr. Gillham called to the chair.

On motion of Mr. Reynolds,

The President's address was received and referred to a committee of three for examination and report.

The chair appointed as said committee Messrs. Reynolds, Emery and Landrigan.

Mr. Reynolds asked to be excused from serving on said committee.

The chair appointed Mr. Voorhies as member of the committee, vice Mr. Reynolds excused.

President Scott in the chair.

On motion of Mr. Moore,

The Board proceeded to the election of Secretary and Treasurer, for the years 1879 and 1880.

Nominations for Secretary being called,

Mr. Cobb nominated S. D. Fisher, of Atlanta.

There being no other nomination,

On motion of Mr. Ellsworth,

S. D. Fisher, of Atlanta, was elected Secretary for the ensuing two years by acclamation, and so declared by the chair.

Nominations for Treasurer being called,

Mr. Ellsworth nominated John W. Bunn, of Springfield.

There being no other nomination,

On motion of Mr. Douglas,

John W. Bunn, of Springfield, was elected Treasurer, for the ensuing two years by acclamation, and so declared by the chair.

On motion of Mr. Smith,

The president was authorized to appoint such additional clerical force as may be deemed necessary, also the curator and porter.

On motion of Mr. Gillham,

The board proceeded to fix the time for holding the next State Fair.

On motion of Mr. Smith,

The last Monday in September was appointed as the first day of the fair week for the years 1879 and 1880.

On motion of Mr. Reynolds,

The president was authorized to appoint a committee of three to revise the by-laws and rules.

Mr. Gillham moved to amend by increasing the committee to five with the president as chairman.

Amendment adopted, and motion, as amended, adopted.

President appointed to act with himself on said committee, Messrs. Reynolds, Smith, Washburn and Gillham.

Mr. Smith introduced the following resolution which,

On motion of Mr. Beaty,
Was adopted.

Resolved, That the President appoint the superintendents of department for the fairs and the standing committees for the years 1879 and 1880, the president to be chairman of the Reception Committee, Committee of Arrangements and Committee on Transportation.

Mr. Stookey introduced the following resolution:

Resolved, That a committee of three be appointed by the President to prepare and present to the General Assembly a bill specifying the amount of appropriation needed to defray the expenses of the Department of Agriculture for the ensuing two years.

On motion of Mr. Gillham,

The resolution was referred to the Committee on By-laws with instruction that provision be made therein for a standing committee on appropriations.

On motion of Mr. Landrigan,

Wednesday, January 15th at 10 o'clock a. m., was appointed as the special hour for receiving proposals and considering the matter of locating the State Fair for the next two years.

On motion of Mr. Gillham,

The Board went into committee of the whole on the revision of the rules and regulations for the next State Fair.

Mr. Cobb in the chair.

After some time spent in consideration of the rules and regulations, the committee rose, reported progress, and asked leave to sit again.

President Scott in the chair.

On motion of Mr. Cobb,

The Board adjourned until 2:30 p. m.

AFTERNOON SESSION.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, Ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Voorhies, Bishop, Pullen, Stookey, Washburn and Landrigan.

The President made the following appointments for the ensuing two years:

SUPERINTENDENTS OF DEPARTMENTS, ETC.

Class A—Cattle.....	Mr. Dysart.
Class B—Horses and Equestrianism.....	Mr. Landrigan.
Class C—Sheep.....	Mr. Vittum.
Class D—Swine.....	Mr. Voorhies.
Class E—Poultry.....	Mr. Emery.
Class F—Mechanics, Inside of Hall.....	Mr. Epler.
Class F—Mechanics, Outside of Hall.....	Mr. Smith.
Class G—Farm Products.....	Mr. Douglas.
Class H—Horticulture, Section 1.....	Mr. Haskell.
Class H—Horticulture, Section 2.....	Mr. Pullen.
Class I—Fine and Liberal Arts.....	Mr. Reynolds.
Class K—Textile Fabrics.....	Mr. Bishop.
Class L—Natural History.....	Mr. Reynolds.
Class M—Military.....	Mr. Gillham.
Class N—Education.....	Mr. Cobb.

Marshal of the Ring—Mr. Beaty.

General Superintendent—Mr. Stookey.

Superintendent of Forage and Stalls—Mr. Moore.

Superintendent of Press Department—Mr. Emery.

Reception Committee—Messrs. Scott, Gillham, Reynolds, Smith and Cobb.

Auditing Committee—Messrs. Ellsworth, Washburn and Snoad.

Committee of Arrangements—Messrs. Scott, Gillham, Beaty, Cobb, Dysart, Smith, Haskell, Reynolds, Vittum, Stookey and Fisher.

Committee on Crop Reports—Messrs. Scott, Haskell and Fisher.

Committee on Printing—Messrs. Scott, Moore, Reynolds and Fisher.

Committee on Finance—Messrs. Cobb, Stookey, Bishop, Smith and Beaty.

Committee on Museum—Messrs. Scott, Reynolds and Fisher.

Committee on Library—Messrs. Emery, Haskell and Fisher.

Committee on Transportation—Messrs. Scott, Gillham, Haskell, Cobb, Smith and Fisher.

Jury on Pedigrees, { Class A—Messrs. Smith, Cobb and Dysart.
Class B—Messrs. Landrigan, Beaty and Reynolds

On motion of Mr. Gillham,

The appointments were approved.

Mr. Haskell introduced the following resolution, which,

On motion of Mr. Emery,

Was adopted.

Resolved, That for the purpose of facilitating the work of revising the premium list for the 1879 Fair, each of the several Superintendents be, and are, hereby appointed a committee of one to prepare and report in writing for the approval of the Board, any changes in the list that may be considered as likely to increase the attractions and promote the usefulness of his department.

On motion of Mr. Ellsworth,

The Board went into committee of the whole for the further revision of the rules.

Mr. Cobb in the chair.

After some time spent in the revision of the rules and regulations, the committee rose and reported the completion of the same as per memoranda in the hands of the Secretary, and asked to be discharged.

President Scott in the chair.

On motion of Mr. Vittum,
The report of the committee of the whole was received and adopted,
and the committee discharged.

On motion of Mr. Douglas,
The Board adjourned to 9 o'clock a. m., to-morrow.

WEDNESDAY, January 15, 1879, 9 o'clock A. M.

Board met as per adjournment.

President Scott in the chair.

Present: President Scott, ex-President Gillham, Vice Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Voorhies, Bishop, Pullen, Stookey, Washburn and Landrigan.

Minutes of yesterday's sessions were read and approved.

Mr. D. W. Lusk, state printer, presented a bill for \$210 83, interest on bill for binding volume 14, transactions Illinois State Board of Agriculture.

Mr. Gillham called attention to the contract entered into by the Board with Mr. Lusk for the interest on the amount of bill for binding said report and moved that the account be paid.

On motion of Mr. Cobb,

The claim of Mr. Lusk was laid on the table.

On motion of Mr. Landrigan,

The Board proceeded to consider the reports of superintendents on the revision of the premium list for the Fair of 1879, which were read and adopted as follows:

CLASS A—CATTLE.

REPORT OF SAMUEL DYSART, SUPERINTENDENT.

To the State Board of Agriculture:

As superintendent of Class A—Cattle I would recommend the same classification of premiums as published last year which, after much inquiry with exhibitors, I am convinced more nearly meets the wishes of all concerned than any previous classification.

The complaint of breeders of dairy cattle, that they are practically prevented from showing herds under the present arrangements where all the beef and dairy breeds are brought into competition, should be considered and I would recommend in order to meet this objection, that a herd premium of \$10 00 be offered to each breed of cattle.

That the amount of premiums offered in this class be not increased I would suggest who shall append to his name the letters of "M. D." But nothing in this act shall be that the amount (\$40 00) heretofore offered for "bulls 4 years old or over" be applied to this herd premium.

The ring for "bulls 4 years old or over" is very small and the few animals heretofore exhibited in this ring can be shown in the ring for "bulls three years old and over."

Respectfully submitted,

SAMUEL DYSART,
Superintendent Class A—Cattle.

On motion of Mr. Landrigan,
The report was adopted.

CLASS B—HORSES.

REPORT OF JOHN LANDRIGAN, SUPERINTENDENT.

To the State Board of Agriculture:

The classification of premiums for the Horse department of the Fair the past year appeared to meet the wishes of exhibitors, and I would recommend but one slight change in the classification, which does not increase the amount of premiums heretofore offered.

In lots 33, breeders' ring, and lot 34, sweepstakes, breeders' ring (Premium List, 1878), all classes of horses—the thoroughbred, roadsters, draft, etc., are brought into competition and the difficulty of securing an impartial and competent committee to pass upon this combination ring, makes the award very unsatisfactory.

The desire of breeders of the different classes of horses to show their stallions and colts in rings where they properly belong, prompts the recommendation that the amount, \$300, heretofore offered in the two lots (33 and 34) referred to, be apportioned to six classes of horses recognized in the premium list, and given for stallion and five sucking foals of his get. This division would make a respectable premium of \$50 for each of the six classes, and would much better serve the purpose intended.

I would recommend that the lot for boys riding be transferred to Class B., as its importance does not justify a separate class.

Respectfully submitted,

JOHN LANDRIGAN,
Superintendent Class B—Horses.

Mr. Reynolds moved to amend the report by striking out the lot for horses for agricultural purposes. The ayes and nays were called and the amendment was defeated by the following vote:

Ayes: Messrs. Reynolds, Moore, Vittum, Beaty and Washburn.—5.

Nays: Messrs. Emery, Haskell, Dysart, Snoad, Cobb, Douglas, Epler, Voorhies, Bishop, Pullen, Stookey, Landrigan, Gillham and Scott.—14.

On motion of Mr. Douglas,

The report was adopted.

CLASS C—SHEEP.

REPORT OF D. W. VITNUM, JR., SUPERINTENDENT.

To the State Board of Agriculture:

The sheep interest in this State is an important one and deserves much encouragement at the hands of the State Board of Agriculture.

A few years ago the Board largely reduced the amount of premiums in this department, and consolidated the various breeds of sheep in three groups—the long, middle and fine wool.

Exhibitors and breeders are strongly in favor of the old classification which gave very general satisfaction and permitted the several recognized breeds to show by themselves as is now done in the classes for cattle, horses and swine.

The Illinois Wool Growers at a late meeting recommended a classification which provides for the following divisions of the more prominent breeds, to-wit: 1st, Cotswolds; 2nd, Leicester and other long wools; 3d, Southdowns; 4th, Shropshire and other downs; 5th, American Merino; 6th, French Merino and other fine wools.

The preference of sheep breeders in the matter of showing single ewes instead of a pen of three, should be considered and I would recommend that hereafter the showing of single ewes be made the rule as it will ensure more critical and satisfactory awards and be in conformity with the established precedent followed for years in all the other classes of live stock.

The general dissatisfaction growing out of the showing of all breeds of sheep in the breeders ring (Lot 46 P. L. 1878) is sufficient cause to recommend its discontinuance in the future.

The Fat Stock Show being the proper place to show fat sheep, it is suggested that lot 47 (P. L. 1878) for "fat sheep" be stricken from the premium list for the next State Fair.

The changes recommended make two more lots for sheep than last year.

Respectfully submitted,

D. W. VITNUM, JR.
Superintendent Class C—Sheep.

On motion of Mr. Cobb,
The report was adopted.

CLASS D—SWINE.

REPORT OF WM. VOORHIES, JR., SUPERINTENDENT.

To the State Board of Agriculture:

After consultation with the former superintendent of this department I learn that the late classification of premiums in Class D—Swine, gave very general satisfaction excepting the breeders ring (Lot 58), where all the breeds are brought into competition.

The advantages sought to be derived from the exhibition of stock in this ring can be better secured by adding \$55 to the \$70 offered in said Lot 58 and make a breeders ring for each of the five lots of swine, now recognized, with a premium of \$25 00 each. This

will increase the premiums only \$55 00 in this class as compared with the previous year. This change is suggested on account of the impossibility of securing an impartial committee of the requisite judgment to pass upon the several breeds when brought into competition.

Respectfully submitted,

WM. VOORHIES, JR.,
Superintendent Class D—Swine.

On motion of Mr. Douglas,
The report was adopted.

CLASS E—POULTRY.

REPORT OF H. D. EMERY, SUPERINTENDENT.

To the State Board of Agriculture:

As superintendent of Class E—Poultry, I would recommend the retention of the same general classification as last year. With the substitution of pairs for single birds, and adding a second premium and in the pigeon lot substitute premium for display instead of varieties with a change of rules to correspond.

This will slightly reduce the amount of premiums previously offered in the class.

I would also recommend that one committee of experts for the whole class be selected.

Respectfully submitted,

H. D. EMERY,
Superintendent Class E—Poultry.

On motion of Mr. Snoad,
The report was adopted.

CLASS F—MECHANICS.

Section 1.

REPORT OF J. M. EPLER, SUPERINTENDENT.

To the State Board of Agriculture:

Your superintendent of Class F, Section 1, would recommend that lot 75 (P. L. 1878) with the exception of "cherry stoner" and "meat cutter" be transferred to Class F—Mechanic Arts, Section 2. The classification presented herewith, does not increase the amount of cash premiums in this class and is recommended.

Respectfully submitted,

J. M. EPLER,
Superintendent Section 1, Class F—Mechanics.

On motion of Mr. Ellsworth,
The report was adopted.

CLASS F.—MECHANICS.

Section 2.

REPORT OF WM. M. SMITH, SUPERINTENDENT.

To the State Board of Agriculture:

The present classification of premiums in this department is very complete and satisfactory.

The offering of a premium of silver medal, for "Road scraper," and diploma and \$20 for "Road making machine" is recommended.

Would recommend the discontinuance of premium for "bog and ant hill shaver;" also "machine for peeling Osier willow."

The display of flower pots should be transferred and placed under the control of the Superintendent of the Floral department.

The offering of premiums for carriages should specify that it is for two seated vehicles so as to distinguish it from the premium now offered for buggies.

Respectfully submitted,

W. M. SMITH,
Superintendent Section 2, Class F—Mechanics

On motion of Mr. Beaty,
The report was adopted.

CLASS G—FARM PRODUCTS.

REPORT OF SAMUEL DOUGLAS, SUPERINTENDENT.

To the State Board of Agriculture:

I have no important changes to recommend in this class, and submit the same list of offerings as published last year, with the addition of five kinds of cake named in the accompanying list.

The premium offered to Agricultural Board for displays should hereafter be confined to county Boards of this State.

Respectfully submitted,

SAMUEL DOUGLAS,
Superintendent Class G—Farm Products.

On motion of Mr. Snoad,
The report was adopted.

CLASS H—HORTICULTURE.

Section 1.

REPORT OF GEORGE S. HASKELL, SUPERINTENDENT.

To the State Board of Agriculture:

The list of offerings presented herewith for this section is recommended for the next State Fair and is the same as published last year, with some additions and omissions.

The changes suggested slightly increase the amount heretofore offered.

Respectfully submitted,

GEORGE S. HASKELL,
Superintendent Section 1—Class H.

On motion of Mr. Ellsworth,
The report was adopted.

CLASS H—HORTICULTURE.

Section 2.

REPORT OF B. PULLEN, SUPERINTENDENT.

To the State Board of Agriculture:

I have but few changes to suggest in the offerings in this class.

The list presented herewith for the next Fair is recommended. The amount of premiums is reduced when compared with that of the previous year.

Respectfully submitted,

B. PULLEN,
Superintendent Class H, Section 2.

On motion of Mr. Ellsworth,
The report was adopted.

CLASS I—FINE AND LIBERAL ARTS.

REPORT OF JOHN P. REYNOLDS, SUPERINTENDENT.

To the State Board of Agriculture:

I recommend that this class be designated "Fine and Liberal Arts." That lot 97 include only objects of fine arts, lot 98, musical instruments. Lot 99, printing, engraving, architectural and mechanical drawing, and decorative art, designing. Lot 100, wax, feather, hair, seed and other ornamental work of similar character.

Respectfully submitted,

JOHN P. REYNOLDS,
Superintendent Class I.

On motion of Mr. Cobb,
The report was adopted.

CLASS K—TEXTILE FABRICS.

REPORT OF E. H. BISHOP, SUPERINTENDENT.

To the State Board of Agriculture:

The present classification of offerings gives very general satisfaction to the exhibitors in this department, and the few changes suggested are presented in the accompanying list, which does not increase the list of offerings to exceed \$20, when compared with the premium list for 1878.

Respectfully submitted,

E. H. BISHOP,
Superintendent Class K.

On motion of Mr. Snoad,
The report was adopted.

CLASS L—NATURAL HISTORY.

REPORT OF JOHN P. REYNOLDS, SUPERINTENDENT.

To the State Board of Agriculture:

I would recommend striking out the offer of premiums for botanical collection, herpetology, of fossil woods and building stone, consolidating the collections of minerals and fossils and increasing the premiums to \$50 for first and \$20 for second premium.

Also including mammals with birds and requiring them to be shown by the Taxidermist. This reduces the aggregate amount offered in this class \$165 00.

Respectfully submitted,

JOHN P. REYNOLDS,
Superintendent Class L—Natural History.

On motion of Mr. Landrigan,
The report was adopted.

CLASS N—EDUCATION.

REPORT OF EMORY COBB, SUPERINTENDENT.

To the State Board of Agriculture:

I recommend that the same amount of premiums be apportioned to the Educational Class as last season.

The list presented herewith makes a few slight changes in the classification.

Respectfully submitted,

EMORY COBB,
Superintendent Class N—Education.

On motion of Mr. Reynolds,
The report was adopted.

The special order being the receiving of proposals for the location of the State Fair, and coming up,

On motion of Mr. Cobb,

The consideration of proposals for locating the State Fair was postponed until 2 o'clock P. M.

On motion of Mr. Douglas,

J. A. Boynton, President State Firemans' Association, was granted permission to address the Board in reference to holding the next State Firemans' Tournament in connection with the State Fair.

Mr. Boynton presented the following communication from the State Firemans' Association, and briefly called attention to the advantages to both organizations of a joint exhibition:

To the State Board of Agriculture:

At a meeting of the Executive Board of the State Firemans' Association, held in the city of Springfield, on Wednesday, January 15th, 1879, the following resolution was adopted:

Resolved, That the Illinois State Firemans' Association propose to hold the next annual Tournament in connection with the State Fair. Provided that the State Agricultural Society guarantee \$2,500 00 to the State Firemans' Association, to be paid at the close of the Tournament, said twenty-five hundred dollars to be divided into prizes for the competition of hose companies, hook and ladder companies, steamers, hand engines, chemical engines, fire extinguishers and other necessary expenses.

Respectfully submitted,

J. A. BOYNTON, President.

A. W. SAWYER, Secretary and Treasurer.

On motion of Mr. Cobb,

The consideration of the proposition of the Firemaus' Association was made the special order for 3 o'clock, p. m.

On motion of Mr. Douglas,

The Secretary was instructed to furnish members a list specifying the number of committeemen to be selected by each, naming the lots.

On motion of Mr. Stookey,

The Superintendents of the Live Stock departments were appointed a committee on programme for the fair.

On motion of Mr. Ellsworth,

The President was added to and made chairman of the committee.

On motion of Mr. Haskell,

The board adjourned to 2 o'clock p. m.

AFTERNOON SESSION—2 O'CLOCK P. M.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, Ex-President Gillham, Vice Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Stookey and Landrigan.

The special order being the receiving of proposals for the location of the State Fair, and coming up—

Communications were read from representatives of County Agricultural Boards at Springfield, Peoria and elsewhere, asking for further time to complete arrangements. When,

On motion of Mr. Gillham,

Tuesday, February 18th, 1879, was appointed for receiving proposals for locating the State Fair for 1879 and 1880, and the Secretary was directed to notify localities desiring the fair of this postponement.

The special order being the consideration of the proposition of the State Firemans' Association and coming up,

On motion of Mr. Gillham,

The proposition of the State Firemans' Association was referred to a committee of three, to be appointed by the chair.

President appointed as said committee Messrs. Gillham, Cobb and Smith.

Committee on President's address made the following report, which,

On motion of Mr. Gillham,

Was received and the resolutions taken up, and considered seriatim, as follows:

To the State Board of Agriculture:

Your committee, to whom was referred the President's address, have had the same under consideration, and beg leave to report:

First. In regard to the location of the State Fair we would offer the following resolution:

Resolved, That we believe that the future industrial interests of the State would be best promoted by the holding of the State Fair alternately in the three divisions of the State.

Second. Regarding County Agricultural Societies and Boards, we approve of the suggestion of the President, that the Secretary of the Board and the Vice President of the district take measures to organize agricultural boards in counties where none exist.

Third. We would recommend the appointment of some member of the Board to prepare a paper each year, embracing the most important items of agricultural history of the State for publication in our annual transactions.

Fourth. Would recommend that more liberal encouragement be extended to merchants at our State Fairs by enlarging the list of displays of merchandise so as to embrace a larger variety of exhibits.

Fifth - Awarding Premiums. Fully realizing the importance of more care in the awarding of premiums, especially in the classes of Live Stock, we would recommend the passage of the following resolution:

Resolved, That the President, together with the Superintendents of the respective classes, A, B, C, D and E, be constituted a committee and empowered to employ as committeemen such gentlemen of recognized fitness in the several departments as may be deemed necessary.

The remuneration in no case to exceed the actual expenses of such gentlemen.

Sixth - Winter Premiums and Exhibit. From the fact that the liberal offers of premiums of this Board has brought out so little competition for field crops, farms, orchards and vineyards, we would recommend that the offerings at our next meeting be confined to the displays and to road making the same as last year.

Seventh - Museum and Library. In accordance with the suggestions of the President, we would recommend the employment by the President of a competent person as curator for the Museum. Also the asking for such an appropriation as may be necessary to enlarge the display in the Museum and increase the number of necessary books in the Library.

Eighth - Fat Stock Show. We would recommend a committee of five for the revision of the list of premiums and rules for the next show. Also a committee of conference to consist of three to consult with the Illinois and Northwestern Dairymen's Associations with regard to holding a show of dairy products in connection with the Fat Stock Show.

Ninth - Crop reports. We would recommend the continuance of the publication of the crop reports and meteorological observation.

Tenth - Drainage. We would recommend a premium of \$100 for the best tile drained farm of not less than 80 acres. The competitors to file with the Secretary of this Board prior to January, 1880, the plan of the farm showing the entire system of tile laid with the sizes used, depth laid and cost of same.

Eleventh. We would recommend the appointment of a committee to memorialize the Legislature for necessary appropriations, presenting such facts showing the workings of the department as will enable the General Assembly to form a just opinion of the work performed and the needs of the department.

Respectfully submitted,

WM. VOORHIES, JR.,
H. D. EMERY,
JOHN LANDRIGAN.

Mr. Gillham offered the following resolution concerning the matter of permanent location as a substitute for the resolution of the committee:

Resolved, That it is the opinion of this Board that the industrial interests of the State will be best subserved by locating the State Fair and holding the annual exhibitions alternately in the three grand divisions of the State.

Mr. Smith moved to amend the substitute by striking out the three divisions, and locating the Fair at the most accessible and desirable point. Lost.

On motion of Mr. Emery,

The substitute was laid on the table.

Mr. Gillham moved that the rule heretofore adopted, providing for the appointment of committeemen in the usual way, which is in conflict with the spirit of the resolution of the committee looking to the selection of expert committeemen, be reconsidered.

Motion lost.

On motion of Mr. Snoad,

The resolution authorizing the appointment of expert committeemen was laid on the table.

On motion of Mr. Ellsworth,

The report of the committee on President's address, as amended, was adopted.

Mr. Vittum introduced the following resolution:

Resolved, That the first premium on sheep be reduced from \$15 to \$10, and the second premium be reduced from \$10 to \$6, for the several rings in the six lots for sheep—the classification in regard to ages remain. Also that the sweepstakes premium for ram and ewe be reduced from \$15 to \$12; further, that the premium of \$25 for 'ram and five ewes' in each of the six lots be reduced to \$20.

On motion of Mr. Cobb,

The resolution was not adopted, but the matter of fixing a scale of premiums for sheep was referred to the Superintendent of the sheep department for further report.

John W. Bunn, Treasurer, presented his bond conditioned in the sum of \$25,000 00 with B. H. Ferguson, E. R. Thayer and E. F. Leonard as sureties.

On motion of Mr. Beaty,

The bond was referred to the Finance Committee for investigation and report.

On motion of Mr. Snoad,

The rates of admission to the State Fair were made the same as last year.

On motion of Mr. Landrigan,

A first premium of \$25 00 and a second premium of \$15 00 was authorized for team of mules 3 years old or over.

Mr. Vittum, Superintendent Class C—Sheep, submitted the following classification of premiums for the sheep department:

COTSWOLDS.

Ram, 3 years old or over	\$20 00
Second best	10 00
Ram, 2 and under 3 years	15 00
Second best	10 00
Ram, 1 and under 2 years	15 00
Second best	10 00
Ram lamb under 1 year old	10 00
Second best	5 00
Same for Ewes	

SWEEPSTAKES—COTSWOLDS.

Ram of any age	\$20 00
Ewe of any age	15 00
Ram and 5 ewes over 2 years of age	20 00
Ram with 5 of his get, under two years of age, to be owned and bred by the exhibitor	20 00
Same for Leicester, Lincoln and other pure bred long wools.	
Same for Southdowns.	
Same for Shropshiredowns, Hampshiredowns and other pure bred middle wools.	
Same for American Merinos.	
Same for French Merinos, Silesian Merinos and other pure bred fine wools.	

Mr. Smith moved to amend the report by striking out the rings providing for sheep "3 years old or over," and changing the wording of the next ring to include sheep "2 years old or over." Carried.

On motion of Mr. Cobb,

The amended classification was adopted.

On motion of Mr. Reynolds,

The President was authorized to appoint a committee of five to prepare premiums and rules and regulations for the 1879 Fat Stock Show.

The President appointed as committee on Fat Stock Premium List and rules governing the same, Messrs. Reynolds, Dysart, Vittum, Smith and Gillham.

Committee to confer with the Illinois and Northwestern Dairymen's Associations in reference to classification of dairy premiums to be offered at the Fat Stock Show: Messrs. Ellsworth, Haskell and Emery.

On motion of Mr. Moore,

The Board adjourned until to-morrow at 10 o'clock a. m.

THURSDAY, January 16, 1879, 10 o'clock A. M.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, Ex-President Gillham, Vice Presidents, Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Smith, Voorhies, Bishop, Pullen, Stookey, Washburn and Landrigan.

Minutes of yesterday's sessions were read and approved.

On motion of Mr. Washburn,

The resolution of the committee on President's address relating to the appointment of expert committeemen was taken from the table.

On motion of Mr. Washburn,

The action of the Board in reference to the old custom of selecting committee-men was reconsidered.

On motion of Mr. Washburn,

The President was authorized to appoint a committee of five to consider and report upon the matter of appointing expert committee-men for the next State Fair.

President appointed as said committee Messrs. Washburn, Smith, Reynolds, Dysart and Gillham.

On motion of Mr. Cobb,

The President was added to and made chairman of the committee.

On motion of Mr. Ellsworth,

Representatives Wright, of the county of DuPage, and E. C. Lovell, of Kane, were granted permission to address the Board in reference to the Dairy interests of the State.

These gentlemen then addressed the Board, calling attention to the magnitude of the Dairy interests of the State, and the necessity for some favorable legislation, and requesting the co-operation of the State Board of Agriculture.

On motion of Mr. Cobb,

The President was empowered to appoint a committee to consider the proposition of the dairymen.

The committee on premium list and rules for the Fat Stock Show, made report, which was received and amended to read as follows:

To the State Board of Agriculture:

Your committee to whom was referred the rules, classification and premium list of the Chicago Fat Stock Show, for revision, respectfully report, that they have given the subject consideration, and beg leave to submit recommendations in relation thereto, as follows:

That the rules of last year, as they are printed in the premium list of 1878, be adopted with the following modifications:

1st. That the Exhibition be opened to the public Tuesday, November 11, at 9 o'clock, a. m., and closed Saturday, November 15th at 10 o'clock, p. m. and that the other dates be made to correspond.

2nd. That rules 2 and 3 in regard to "animals," be stricken out.

3d. That rule 4 in regard to "awarding committees" be stricken out. Rule 9 be amended by striking out the lower line and that rule 12 be stricken out.

4th. That the last two premiums in Lots 1, 2, 3, 4 and 5, be made \$25 and \$15 respectively, instead of \$50 and \$25.

5. That a first and second premium of equal amount for yearling steers be added to said Lots, and a \$50 00 premium in Lot 6—Sweepstakes.

6. That the sweepstake for cows in Lot 6 be made \$50 00 instead of \$100 00.

7. The grand sweepstakes—lot 7—be \$100 00 instead of \$200 00.

8. That in Lot 8—"Car Loads"—the minimum number be 6 head for 4 year olds, 8 head for three year olds and 10 head for 2 year olds; that the 1st premium be \$200 00 and the 2nd premium \$100 00, and that a 1st, 2nd and 3rd premiums of \$75 00, \$50 00 and \$25 00 respectively be offered for the heaviest fat steers.

9. That Lot 11—Fine Wools—be stricken out.

10. That the premiums in Lot 14—Grand Sweepstakes—be \$30 00 each instead of \$50 00 each.

11. That a 1st premium of \$60 00 and a 2nd premium of \$30 00 be offered for "Best Car Load of Fat Sheep, not less than 30 head."

12. The premiums in Lots 15, 16 and 17—Swine—be \$15 00 for 1st and \$10 00 for 2nd, and in Lot 19—"Best Hog or Pig of any age"—be stricken out and "Heaviest Hog" be inserted; also that the premium be made \$50 00 instead of \$80 00.

13. That a premium of \$50 00 be offered for the Bullock which shall dress the largest percentage of meat in proportion to live weight—the butchering and weighing to be done during the Exhibition in the presence and under the direction of an awarding committee regularly appointed, and that not less than two entries be required and two competing Bullocks killed to authorize an award.

14. That the sum of \$500 00 be appropriated for premiums on Dairy Products, and that the Illinois and the Northwestern Dairymen's Associations be requested to indicate the best classification of the list of premiums, and distribution of the money among the objects they may include in such list.

15. That manufacturers and dealers in implements and utensils and other objects in connection with butchering live stock, packing meats, and dairying in all its branches be permitted to exhibit so far as the space not otherwise occupied may permit by paying five dollars each as an entry fee.

16. That in the selection of awarding committees one-third of the whole number shall be residents of this State and two-thirds residents of other States or countries, and that, as far as practicable, the proportion of residents and non-residents be preserved in organizing the several committees.

17. The premium on Game to be reduced to \$50 00.

JAMES R. SCOTT,
JOHN P. REYNOLDS,
D. B. GILLHAM,
D. W. VITTM, JR.,
W. M. SMITH,
SAMUEL DYSART,
Committee.

On motion of Mr. Landrigan,

A class was made for horses, breeders to be permitted to exhibit not to exceed two horses each, at the Fat Stock Show.

Carried on division vote, 9 to 8.

On motion of Mr. Gillham,

A premium was provided for car load of "steers one and under two years" with same premium as for other car load lots.

On motion of Mr. Stookey,

The report of the committee on Fat Stock Show, as amended, was adopted.

On motion of Mr. Snoad,

The president was authorized to appoint a committee of five members of the Board to solicit subscriptions for the premium fund of the Fat Stock Show.

President appointed as said committee Messrs. Snoad, Cobb, Reynolds, Smith and Vittum.

On motion of Mr. Gillham,

The President was added to the committee and made chairman.

On motion of Mr. Douglas,

The Board adjourned until 2 o'clock p. m.

AFTERNOON SESSION—2 O'CLOCK.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, ex-President Gillham, Vice Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Voorhies, Pullen, Stookey.

Mr. Ellsworth introduced the following resolution, which,

On motion of Mr. Stookey,

Was adopted:

Resolved, That the Secretary be authorized to collect and publish such statistics relating to drainage and dairy matters as will call attention to the advancement of these interests.

Mr. Dysart introduced the following resolution, which,
On motion of Mr. Beaty,
Was adopted.

Resolved, That the Secretary be instructed to publish in pamphlet form at the earliest practicable date, the reports of awarding committees relating to the last Fat Stock Show, with any other information that may be of interest or value to feeders of stock or parties that may contemplate exhibiting at the next show.

Mr. Vittum, Superintendent Class C—Sheep, presented the following communication from the Illinois Wool Growers Association in reference to the classification of premiums for sheep.

On motion of Mr. Dysart,

The communication was received, read and ordered spread upon the record.

SPRINGFIELD, ILL., January 15th, 1879.

Hon J. R. Scott, President Illinois State Board of Agriculture:

The committee appointed by the Illinois Wool Grower's Association, at a meeting held on the State Fair Grounds, at Freeport, beg leave to present as the expressed wish of the contributors to the sheep display, that:

First. It is highly desirable that the policy of encouraging exhibitions of the best stock by a prudent increase of money offerings heretofore observed with reference to other live stock, be allowed to apply to the sheep department.

Second. The several prominent varieties of each breed should be shown separately, that is to say viz:

PURE BRED LONG WOOL.

1. Cotswold. 2. Leicester, Lincolns and other pure bred long wools.

PURE BRED MIDDLE WOOL.

3. Southdown. 4. Shropshiredown, Hampshiredown and other pure bred middle wools.

PURE BRED FINE WOOL.

5. American Merino. 6. French Merino, Silasian Merino and other pure bred fine wools; other lots as heretofore arranged except where otherwise referred to.

Third. The practical effect of requiring 3 ewes to be shown together has been to allow the deficiencies of one animal to offset the excellencies of another and has often resulted in excluding from exhibition highly meritorious individual animals. It is therefore recommended that the rule applying in all other live stock rings be observed in the sheep exhibits—that of showing females singly, except where otherwise specified.

Fourth. A pen of 1 Ram and 5 Ewes, all to be two years old or over, for each of the three recognized pure breeds, is recommended.

Fifth. A lot for breeders' exhibit, wherein may be shown rams of the several breeds with not less than 5 lambs of their get, bred by one individual or firm and to be shown by the breeder is also recommended.

Sixth. As the Fat Stock Show is believed to offer the most favorable opportunity for showing the results of breeding and feeding for mutton production it is recommended that the lot for *fat sheep* be hereafter omitted.

Seventh. It is believed that the interests of exhibitions would be advanced by the adoption and rigid enforcement of a rule requiring all sheep to have been properly sheared subsequently to the first day of April. The rule against stubble shorn sheep should be retained and more rigidly enforced, and all sheep excluded from competition by reason of attempts to mislead the public or awarding committees should be expelled from the Fair Grounds, or have the reason for excluding from competition plainly marked upon the pens in which they are confined.

Eighth. The Illinois Wool Growers have long realized the necessity for the employment of recognized and competent judges to determine the awards upon sheep at both the state and local exhibitions. Such conclusion has by resolution or petition been repeatedly brought to the attention of the State Board of Agriculture, of Illinois, and the importance of prompt action, in accordance with the unanimous and oft repeated requests of its exhibitors is worthy of consideration. Several prominent fairs are now securing the services of experts in determining awards in sheep departments with highly satisfactory results.

Respectfully submitted in behalf of the committee appointed by State Wool Grower's Association.

A. M. GARLAND,
Chairman.

The committee on by-laws made a report which was amended, and adopted, to read as follows:

BY-LAWS

OF THE

STATE BOARD OF AGRICULTURE

OF THE

STATE OF ILLINOIS.

WHEREAS, The General Assembly of the State of Illinois passed an act entitled "An Act to create a Department of Agriculture in the State of Illinois," which was an act approved on the 17th of April, A. D. 1871; and

WHEREAS, Said law provides that the business of said Department of Agriculture shall be conducted by a Board to be styled THE STATE BOARD OF AGRICULTURE, and

WHEREAS, Said law provides that the officers of the Illinois State Agricultural Society should constitute the first Board of Agriculture under said act; and

WHEREAS, The said law was revised by an act approved March 27th, 1874, in force July, 1874; and

WHEREAS, The law was further revised by the 29th General Assembly; approved April 9th, 1875, in force July, 1875; and

WHEREAS, A general law was passed by the same Assembly, fixing the fiscal year;

Resolved, That the State Board of Agriculture adopt the following By-Laws for its government, and that of County, Union and District Agricultural Boards:

SECTION I.

The officers of this Board shall be a President and one Vice President from each congressional district in the state, a Secretary, Treasurer and the last ex-President of the Board.

SECTION II.

An election for a State Board of Agriculture shall be held upon the Fair Grounds on Wednesday of the State Fair in 1876, and biennially thereafter, at such place upon the grounds as the President may designate, by delegates or alternates, chosen by the several county, union or district agricultural boards, in counties where such boards exist, and by the board of supervisors, or the county board, as the case may be, in counties where no agricultural board exists. Each county, union or district agricultural board to be entitled to three delegates, and no more; such delegates or alternates to produce, at the time of the election, the certificate of their appointment from the President or Secretary of their respective boards, or the proper county officers.

The delegates, alternates and proxies voting at the meetings of delegates for the election of officers of the State Board of Agriculture, shall in all cases be residents of the several counties or territorial districts covered by the organizations they respectively represent."

SECTION III.

The Secretary and Treasurer shall be chosen by the State Board of Agriculture at the first annual meeting in January after the election of the Board, and shall hold their offices for the same time as members of the Board, unless removed for good cause.

SECTION IV.

Voting for members of the State Board of Agriculture by delegates, as provided, shall be *viva voce*.

The counties of their respective districts shall be called first, and then the remaining counties of the State in alphabetical order, unless otherwise determined by the convention, and a majority of all votes cast shall be necessary for an election.

SECTION V—DUTIES OF OFFICERS.

The President shall be ex-officio President of the convention of delegates for the election of members of the State Board of Agriculture. It shall be his duty to preside at all meet-

ings of the Board, to preserve order and enforce these rules. He shall sign all orders upon the Treasurer, except as hereinafter provided, before the same shall be payable, and generally discharge the duties pertaining to his position in deliberative bodies. He shall have power to call special meetings of the Board, when, in his judgment, there may be an emergency justifying such meeting.

SECTION VI.

Any member of the State Board of Agriculture shall be eligible to the position of President *pro tempore*, and the acts of such officer in the absence of the President shall be valid.

SECTION VII.

The Secretary of the State Board of Agriculture shall act as Secretary of the Convention of Delegates for the election of members of the Board, until a Secretary is chosen by the Convention.

He shall keep all records of the Board, and prepare the reports of the Board to the Governor, as provided for by the acts creating the department.

He shall, at the regular annual meetings in January of each year, make to the Board a report of the workings of his office, with such suggestions as he may deem proper to secure the best results from the operations of the Board, and to perform in general such other duties as may be prescribed by the State Board of Agriculture.

SECTION VIII.

The Treasurer shall have charge of all moneys under the control of the State Board of Agriculture, and pay out the same only upon vouchers approved by the President and countersigned by the Secretary, or signed by the Auditing Committee.

He shall give bond with approved security for the faithful discharge of his duties as Treasurer, and for the safe custody of the funds in his hands, in such amount as the State Board of Agriculture may require.

He shall receive from the Auditing Committee such tickets as may be provided for by the Board, and give his receipt for the same as for money received, and shall superintend the sale of the same, under such rules as the State Board may prescribe. He shall furnish annually to the Board a detailed statement of its finances, giving the sums and sources of moneys coming into his hands, and produce properly signed vouchers for all sums paid out by him.

SECTION IX.—COMMITTEES.

AUDITING COMMITTEE.

The Auditing Committee, subject to the Board, shall have exclusive control of the entrances to the fair grounds, appointing all ticket takers and gate police.

In due time previous to each annual fair they shall cause to be printed the necessary number of tickets, except complimentary.

They shall deliver the tickets for sale, to the Treasurer, taking his receipt therefor, specifying the kinds and denominations in detail, and shall make proper settlement with the Treasurer on account of the same, at the close of each Fair, reporting the same in detail to the Board.

They shall grant all permits and privileges for sale of articles, or for the occupancy of space not in any manner connected with the general exhibition in the several departments of any portion of the Fair grounds, fixing the prices for the same, and in all cases shall report the contract prices and terms to the Treasurer for collection, and shall also furnish memoranda, of the permits for space to the General Superintendent, who shall thereupon locate the same.

They shall audit, and, if found to be correct, approve all bills for expenses incurred during, or in the immediate preparation for, each Fair, and no such bills shall be paid by the Treasurer except upon such approval or upon the order of the Board.

RECEPTION COMMITTEE.

The Reception Committee shall receive and suitably entertain invited guests and other distinguished visitors to whom the hospitality of the Board is extended during their attendance upon the Fair, and to that end shall have authority to make the necessary expenditures, under direction of the Board.

COMMITTEE OF ARRANGEMENTS.

The duty of the Committee of Arrangements shall be to see that the specifications of requirements for holding the annual fairs are fully complied with; also to superintend all preparations and arrangements for the Chicago Fat Stock Show as are not otherwise provided for. To have the general arrangement of the grounds, the location of exhibition hall and other buildings, and the allotment of grounds for all purposes not otherwise provided for.

COMMITTEE ON PRINTING.

The Committee on Printing shall have charge of and make all necessary contracts for the printing of the premium list and other matter not otherwise provided by the State, except tickets, and to supervise the preparation of the annual reports and be responsible for the insertion of any papers published in the report of the transactions of the Board. The Committee will make annual report in detail to the Board of the work performed.

COMMITTEE ON MUSEUM.

The Committee on Museum shall have charge of and place on exhibition the samples and specimens now the property of the Board, and take the necessary steps to complete the collection of the non-perishable agricultural products of the State, and to make any exchange of duplicates desirable, and to expend not to exceed one hundred dollars annually in the purchase of samples and specimens that cannot be otherwise procured. The committee will make a report in detail, annually, of the condition of the museum, the number of articles received, etc.

LIBRARY COMMITTEE.

The Library Committee shall have charge of the books, periodicals, pamphlets, documents, etc., in the State Agricultural Library, and expend such sums as may be appropriated by the Board or General Assembly, for the purchase of desirable publications.

The books and publications shall not be taken from the room of the department.

The committee shall have authority to exchange duplicates, and take such action as will make the library of the greatest use to the public, and make annual reports to the Board of additions thereto, and of the condition of the same.

SECTION X.

The rules and order of business at all the meetings of the State Board of Agriculture shall be as follows:

RULES.

THE PRESIDENT.

1. Shall take the chair at the hour to which the Board shall have adjourned, shall call the members to order, and order a call of the roll.

QUORUM.

2. A majority of the members shall constitute a quorum.

3. He shall preserve decorum and order; may speak to points of order in preference to other members, rising from his seat for that purpose; and shall decide questions of order, subject to an appeal to the Board by any two members; on such appeal no member shall speak more than once, unless by leave of the Board.

4. He may elect to state or put a question by either sitting or rising.

5. He shall examine and correct the minutes before they are read; shall have a general direction of the Hall; shall have the right to name any members to perform the duties of the chair. But such substitution shall not extend beyond one day.

6. All committees shall be appointed by the President, unless otherwise directed by the Board.

7. The President shall vote in all cases; and if after he has voted the house shall be equally divided, the question shall be decided in the negative.

ORDER OF BUSINESS.

1. Call of the roll.

2. Reading the minutes of previous meeting. But the reading of the minutes may be dispensed with by vote of the Board, except once each day.

3. Petitions.

4. Reports of standing committees.

5. Reports of special committees.

6. Unfinished business, or business on Secretary's desk.

7. Resolutions. (Provided, however, that after reading of the minutes, the Board shall proceed with the regular orders, commencing in the order upon which it was engaged at the time of the adjournment on the preceding day, first disposing of the particular business of the order which may have been pending at adjournment).

8. All questions relative to priority of business to be acted upon shall be decided by the President without debate.

9. Every member who shall be in the Hall when a question is put shall vote, unless excused by the Board.

10. The yeas and nays shall be taken on any question upon the demand of two members.

11. Petitions, memorials, and other papers addressed to the Board, may be presented by any member, who shall state briefly their contents, and may be acted on at once, or referred, as the Board shall direct.

12. In forming committee of the whole Board, the President shall leave his chair and shall appoint the mover of the committee chairman, but who may be excused, when the President shall appoint.

13. The rule of proceeding in the Board shall be observed in committee of the whole as far as practicable, and a majority of any committee shall be a sufficient number to proceed to business.

14. Every motion or resolution shall be reduced to writing, if the President or any member desires it, and when a motion is made it shall be stated by the President, or, if it be in writing, shall be read by the mover or Secretary before debate is had thereon.

15. After a motion or resolution offered is stated by the President or read by the Secretary, it shall be considered the property of the Board, but may be withdrawn at any time before decision or amendment, by leave of the Board.

16. Any member may call for a division of the question, when divisible; but a motion to strike out and insert shall be indivisible.

17. When a question has once been decided, it shall be in order for any member of the majority to move for a reconsideration thereof on the same, or within the next two days of actual session of the Board.

18. Whenever any member is about to speak in debate, or deliver any matter to the Board, he shall rise and respectfully address himself to "Mr. President," and it in debate shall confine himself to the subject under discussion, avoiding personalities.

19. When two or more members rise at once, the President shall name the member who is to speak first.

20. No member shall speak longer than _____ minutes at any time, nor more than once on the same question, except by leave of the Board.

21. While the President is putting a question or addressing the Board, or when a member is speaking no person shall walk across the Hall or pass between the member speaking and the chair, or engage in private conversation.

22. If any member in speaking, or otherwise, transgress these rules, the President or any member may call him to order; and shall not proceed unless permitted to explain; and the Board, if appealed to, shall decide without debate, and if decided in favor of the member called to order, he shall be at liberty to proceed.

23. When a question is under debate no motion shall be received—but to adjourn, a call of the Board, to lie on the table, previous question, to postpone to a day certain, or indefinitely, or to refer—which several motions shall have precedence in the order in which they are arranged.

24. The previous question shall be in this form: "Shall the main question be now put?" and shall only be admitted when demanded by a majority of the members present; and its effect shall be to put an end to all debate and to bring the Board to a direct vote upon the motion, resolution or other subject under debate.

25. No smoking shall be allowed in the Hall while the Board is in session.

26. The hour at which every motion to adjourn is made shall be entered upon the minutes.

27. Nine o'clock in the morning shall be the standing hour to which the Board shall adjourn, unless otherwise ordered.

28. A motion to adjourn shall always be in order, and shall be decided without debate and not be subject to amendment.

29. No rule shall be dispensed with or suspended without concurrence of a majority of the members present; nor shall a rule be rescinded without one day's notice be given in the motion therefor; but a new rule, not in conflict with existing rules, may be added after such notice by a majority vote.

30. No member after having absented himself from any session or sessions of the Board, shall be allowed to ask of the Board what business has been transacted during such absence; but must refer himself to the record for such information, unless the Board for cause shall otherwise order.

31. The following standing committees shall be appointed by the President, unless otherwise ordered:

1. Committee of Arrangements.
2. " " Reception.
3. " " Auditors.
4. " " Crop Reports, etc.
5. " " Printing.
6. " " Finance.
7. " " Library.
8. " " Museum.
9. " " Transportation.
10. " " Pedigrees.
11. " " Petitions and Resolutions
12. " " Rules, of which the President shall be chairman.

SECTION XI.

There shall be but one County, Union or District Agricultural Board in each County.

SECTION XII.

In counties having no Agricultural organization, any number of citizens, not less than ten, may organize a County, Union or District Agricultural Board, by the election of a President, Secretary, Treasurer, and a Board of not less than five Directors, adopt the name of "The _____ County, Union or District Agricultural Board," and file with the Secretary of the State Board of Agriculture, and also with the Clerk of the Circuit Court of such county a certificate of their organization.

SECTION XIII.

In counties having but one Agricultural organization a County, Union or District Agricultural Board may be organized on filing with the Secretary of the State Board of Agriculture, and the Clerk of the Circuit Court of the county, the assent of such Agricultural organization to the provisions of "An Act to create a Department of Agriculture in the State of Illinois," and acts amendatory thereof, and adopting the name of "The _____ County, Union or District Agricultural Board."

SECTION XIV.

Counties having more than one Agricultural organization, may organize a County, Union or District Agricultural Board, by agreement between said Agricultural organizations, before the 1st day of June, 1876; but in case of failure to agree and organize such County, Union or District Agricultural Board on or before that time, the County, Union or District Agricultural Board may be organized by representatives chosen by the several Agricultural organizations, in which each organization shall be entitled to three representatives; said representatives, when chosen, shall organize and elect three delegates to represent the said County, Union or District Agricultural Board, at the election of the State Board of Agriculture.

SECTION XV.

In counties having one or more Agricultural organizations, and such organizations neglect or refuse to organize as provided in these By-Laws, on or before the 15th day of August, in any year in which elections are held, then a County, Union or District Agricultural Board may be organized under the provisions of Section 12, relating to counties having no Agricultural organization.

SECTION XVI.

All County, Union or District Agricultural Boards shall report their organization to the Secretary of the State Board of Agriculture before the first of September in any year in which an election occurs.

SECTION XVII.

No society in a county having more than one agricultural organization shall be entitled to any of the benefits of the act creating a Department of Agriculture unless represented in the County, Union or District Agricultural Board.

SECTION XVIII.

No County, Union or District Agricultural Board shall be entitled to any of the benefits of the appropriation provided for in the Act creating the Department of Agriculture in the State of Illinois, and acts amendatory thereof, until they shall have held a fair the previous year, paid premiums amounting to at least three hundred dollars, and made such a report to the State Board of Agriculture, as is required of such Boards.

SECTION XIX.

On or before 12 o'clock, noon, on Wednesday of the Annual Fair of the State Board of Agriculture, for the year 1876, and biennially thereafter, each County, Union or District Agricultural Board shall report to the Secretary of the State Board of Agriculture, at the Fair Grounds, the names of the delegates from such County, Union or District Agricultural Board entitled to vote at the election of the State Board of Agriculture; and the Secretary shall prepare and report to the meeting of delegates, immediately upon the same being called to order, and before any other business is done, the counties in which County, Union or District Agricultural Boards have been organized, and reported to him on or before the 1st day of September of that year; and also the names of the delegates reported to him as herein provided. The persons so reported as delegates or alternates, and delegates and alternates appointed by Boards of Supervisors or County Boards, as provided by law, and no others, shall be entitled to vote at any election of the State Board of Agriculture.

SECTION XX.

Each County, Union or District Agricultural Board shall report annually, through its Secretary, and shall forward such report to the Secretary of the State Board of Agriculture on or before the 25th of October.

Such report should embrace—

- 1st. Names and Post Office Address of its President, Secretary and other officers.
- 2d. Date of organization (or) incorporation; amount of authorized capital stock; number of shares of stock issued; par value of shares of stock; cash value of real estate and improvement thereon; number of shareholders or members; number of volumes in library, and time of holding Fair.
- 3d. A complete Financial Exhibit of the condition of the society for the current year.
- 4th. A full report of the Exhibition for the year, showing the number of entries, the amount of premiums offered, and the amount of premiums paid to, each department thereof.

5th. The report to be signed by the President and Secretary of the Board, and to be accompanied by copies of such Essays, Statements and Statistics collected, as may be considered worthy of publication in the report of the State Board of Agriculture.

When two or more organizations are represented in a County, Union or District Agricultural Board, then the report of such Board should embrace a separate report from each organization so represented, covering the points heretofore mentioned. (Blank forms for such annual reports will be forwarded from the office of the Secretary of the State Board.)

6th. Suggestions in regard to any subject it may be thought desirable to bring to the notice of the State Board of Agriculture, or through said Board to the people of the State, or to the General Assembly.

SECTION XXI.

Wherever the word "Fair" occurs in these By-Laws, it shall be held to mean a *bona fide* exhibition of the four principal classes of Live Stock, together with general Agricultural and Horticultural products and Mechanical Arts.

On motion of Mr. Ellsworth,

The Secretary was instructed to have the By-Laws and rules as amended printed in pamphlet form for the use of the Board.

On motion of Mr. Douglas,

The bill of D. W. Lusk, for interest on cost for binding reports—the State appropriation for this purpose having been exhausted—was taken from the table, and Mr. Lusk given an opportunity for stating the grounds of his claim, when,

On motion of Mr. Gillham,

The claim of D. W. Lusk, amounting to \$210 83 was ordered paid. The Finance Committee made the following report:

To the State Board of Agriculture:

Your committee to whom was referred the bond of the Treasurer would respectively report that they have carefully examined the financial standing of the surties, and consider the bond good and sufficient for the amount named.

We would recommend its acceptance and that the bond be filed with the Secretary.

Respectfully submitted,

EMORY COBB,
WM. M. SMITH,
D. E. BEATY,
M. T. STOOKEY,
E. H. BISHOP.
Finance Committee.

On motion of Mr. Gillham,

The report of the finance committee on the bond of the Treasurer was adopted.

The following communication from Adjutant General H. Hilliard, Illinois National Guard, was read:

GENERAL HEADQUARTERS, STATE OF ILLINOIS. }
ADJUTANT GENERAL'S OFFICE. }
SPRINGFIELD, January 16, 1879. }

To the President of the State Board of Agriculture:

SIR: I have the honor to suggest to the honorable Board, over which you preside, that consideration be given in your proceedings to the allotting of prizes to the Illinois National Guard at the State Fair.

If held in the northern, central or southern portion of the State, an entire brigade could be got together at the Fair, if proper encouragement is given. I therefore suggest that five prizes be offered for competition for the best drilled companies of the Guard who may enter to compete, viz: First premium, \$400; second, \$300; third, \$200; fourth, \$100; fifth, \$50.

Very respectfully,

H. HILLIARD,
Adjt. General.

ENDORSEMENT BY THE GOVERNOR:

"It would be very gratifying to the officers and members of the National Guard to be recognized by the State Board of Agriculture, at our State Fairs, and I think it would add greatly to the attendance on the days on which the military of the State would take part.

Respectfully,

S. M. CULLOM."

On motion of Mr. Douglas,

The communication of Adjutant General Hilliard, was referred to a committee of five, to be appointed by the President, the President to be chairman of the committee.

The President appointed to act with himself on said committee, Messrs. Douglas, Smith, Cobb and Gillham.

President appointed the following committee on appropriations: Messrs. Smith, Cobb and Fisher.

On motion of Mr. Gillham,
President Scott was added to and made chairman of the committee on appropriations.

On motion of Mr. Landigran,
Mr. Gillham was added to the committee on appropriations.

Mr. Smith, chairman of committee appointed to prepare a memorial to the General Assembly, asking for the creation of the office of State Veterinarian, reported in favor of the same.

On motion of Mr. Reynolds,
The committee was authorized to prepare a bill providing for the office of State Veterinarian, and present the bill and memorial to the Legislature.

The following communication of Dr. N. H. Paaren, Veterinary Surgeon of the Department, was read, and,

On motion of Mr. Smith,

The communication was ordered spread upon the record:

To the State Board of Agriculture:

In view of the fact that contagious diseases among cattle prevail to a considerable extent on the European continent outside of the British Islands, would it not be proper that the State Board of Agriculture of Illinois recommend some action on the part of the National Government, with a view of preventing the importation of cattle into this country from such countries where no precautionary measures have been put in force.

This has especial reference to Holland, Germany and France.

With a view of preventing dissemination of diseases among swine—would it not be proper to make it obligatory on all persons intending to exhibit swine at the State Fair to make affidavit that no contagious or spreading disease, and especially no hog cholera, has existed on their premises or among their swine during one month or six weeks previous to their making their entries.

Respectfully submitted,

N. H. PAAREN, V. S.

Mr. Cobb introduced the following preamble and resolution, which,

On motion of Mr. Dysart,

Was adopted.

WHEREAS, The attention of this Board has been called to the fact of frequent importations of cattle from the European continent for breeding purposes, thereby endangering the introduction of Rinderpest, Pleuro pneumonia and other contagious diseases; and,

WHEREAS, Great Britain does at the present time prohibit the importation of live cattle from the German States and Belgium; therefore, be it

Resolved, That the Secretary of this Board is hereby directed to communicate with the Secretary of the Treasury in regard to this subject, calling his attention to the same, and ascertain what sanitary regulations are now in force in respect to the importation of cattle into this country.

On motion of Mr. Reynolds,

The committee to secure subscription for the Fat Stock Show were authorized to receive subscriptions either as a guaranteed fund or donation, or both.

On motion of Mr. Landigran,

The following rule was adopted in relation to exhibiting cattle and horses in the ring, and ordered printed in the premium list, viz:

The superintendents of Classes A. and B. may exclude stock from competition should there be unnecessary delay on the part of the exhibitor in bringing animals into the show-ring.

On motion of Mr. Voorhies,

The board adjourned to meet on Tuesday, February 18th, 1879, at 10 o'clock a. m.

DEPARTMENT OF AGRICULTURE, }
SPRINGFIELD, ILLINOIS. }

TUESDAY, February 18, 1879—10 o'clock A. M.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, Ex-President Gillham, Vice Presidents Ellsworth, Emery, Haskell, Moore, Dysart, Snoad, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen and Landrigan.

Minutes of sessions held January 16, were read and approved.

On motion of Mr. Smith,

The hour for receiving proposals for locating the Fair for 1879 and 1880, was appointed for 2 o'clock p. m.

The committee appointed to consider the proposition of the State Fireman's Association, made the following report:

To the State Board of Agriculture:

Your committee to whom was referred the proposition of the Illinois Fireman's Association, to hold the Fireman's Tournament for 1879 and 1880, in connection with the State Fair, would report that since the adjournment of this Board, in January, the State Fireman's Association has determined to hold the next Tournament in the city of Peoria.

Your committee would therefore ask to be discharged from the further consideration of the subject.

Respectfully submitted,

W. M. SMITH,
D. B. GILLHAM

On motion of Mr. Haskell,

The report was received and the committee discharged.

The Committee appointed to solicit subscription for the Fat Stock Show made the following report:

To the State Board of Agriculture:

Your committee would report that the following subscriptions have been made to the general premium fund of the Fat Stock Show for 1879:

Union Stock Yards and Transit Co., of Chicago, John B. Sherman, Sup't.....	\$1,000 00
Pork Packers, Chicago	500 00
Grand Pacific Hotel, Chicago, John B. Drake & Co., Prop's.....	200 00
Wood Bros., Live Stock Commission Merchants, Union Stock Yards, Chicago.....	150 00
H. E. Mallory & Bro.,	50 00
Gregory, Cooley & Co.,	50 00
R. Strahorn & Co.,	50 00
Geo. Adams Burke & Bro.,	50 00
Bensley, Wagner & Bensley,	50 00
Hall, Patterson & Co.,	50 00
Shannon Bros. & Co.,	50 00
Nelson Morris,	50 00
W. T. Keenan,	50 00
Martin Bros.,	50 00
Horine Bros. & Co.,	25 00
McCurdy & Beveridge,	50 00
Itamsay & Son,	25 00
Cassell, Wigelsworth & Co.,	25 00
Anderson & Fisher,	25 00
Coffman, Ream & Denny,	25 00
Jackson & Rankin,	50 00
Adams & Eldredge,	50 00
Dickson & Bryers,	20 00
S. W. Allerton,	25 00
Grand Pacific Hotel, Chicago, John B. Drake & Co., Prop's, for Dairy Products..	100 00
Total	\$2,770 00

Respectfully submitted,

CHARLES SNOAD,
EMORY COBB,
J. P. REYNOLDS,
W. M. SMITH,
D. W. VITUM,
Committee.

On motion of Mr. Gillham,

The report was received, adopted and the committee discharged.

The committee appointed to consider the matter of employing expert committeemen for the State Fair, made the following report:

To the State Board of Agriculture:

Your committee, to whom was referred the subject of selecting expert committee-men, would ask leave to report as follows:

In order to meet the views of your committee, it will be necessary to make some changes in the premium list adopted for the next Fair. We would recommend that rules 19 and 21, defining the duties of awarding committees be stricken out of the list, or amended to suit the purpose for which they are intended. In order to avoid as much as possible a conflict of breeds in Class A, your committee would further recommend that the classification be changed as follows: That Lot 13, sweepstakes, 'open to all breeds,' be stricken from the list.

Lot 13—Herds. Milk breeds, Jerseys, Holsteins and Ayrshire—"Best bull and 5 cows or heifers, one year old or over, owned by one individual or previously existing firm," \$30 00; second best, \$40 00.

Lot 14—Herds from one bull—milk breeds—Holstein's Ayrshires and Jerseys. "Best 5 cattle, male or female, of any age, without regard to ownership, the get of one bull, the sire to be shown with the herd and considered in making the award," \$30 00; second best, \$40 00.

Lot 15—Breeder's Ring—Milk breeds, Holstein, Ayrshires and Jerseys: "Best five cattle of one breed, male or female, over one year old, bred and owned by exhibitor," \$30 00; second best 40 00.

Lot 16—Herds—Beef breeds, short horns, Herefords and Devons: "Best bull and 5 cows or heifers, one year old or over, and owned by one individual or previously existing firm," \$30 00; second best, \$40 00.

Lot 17—Herds from one bull.—Beef breeds—Short horns, Herefords and Devons: "Best 5 cattle, male or female of any age, without regard to ownership, the get of one bull, the sire to be shown with the herd, and considered in making the award," \$30 00; second best, \$40 00.

Lot 18—Breeders' ring—Beef breeds—Short horns, Herefords and Devons: "Best 5 cattle of one breed, male or female, over one year old, bred and owned by exhibitor," \$30 00; second best, \$40 00.

By the classification, your committee believe that six committee-men may do the whole work in the class, also in classes B. C. and D., the same number will answer and would recommend that the President and the Superintendents of classes A. B. C. and D., be appointed a committee to select the committeemen in said lots, previous to the time of holding the Fair, and have power to fill a vacancy during the Fair, and they would further recommend that the President and Superintendent of each of the other classes in the list be authorized to appoint during the Fair the following number of committeemen for each class, to-wit:

Class "E," one; "F," Sec. 1, three; Sec. 2, three; "G," three; "H," Sec. 1, three; Sec. 2, three; "I," three; "K," three; "L," three; "M," three and class "N," three.

By this arrangement only 49 committeemen will be used during the Fair, and your committee believe that to procure the services of practical persons they must be compensated for their time, and they recommend that persons acting on said committees be paid \$3 00 per day and meals on the ground while in service at the Fair.

JAS. R. SCOTT,
D. B. GILLHAM,
SAMUEL DYSART,
W. M. SMITH.

Committee.

On motion of Mr. Beaty,

The report was received, adopted and committee discharged.

On motion of Mr. Emery,

A premium of \$10 was offered for the "best horse power."

The following communication from the Treasury Department was read, and,

On motion of Mr. Dysart,

Ordered spread upon the record:

TREASURY DEPARTMENT,
 OFFICE OF THE SECRETARY,
 WASHINGTON, D. C., January 31, 1879.

S. D. Fisher, Esq., Department of Agriculture, State of Illinois, Springfield:

SIR:—This department is in receipt of your letter of the 24th inst., inquiring what sanitary restrictions are imposed with reference to importations of cattle, especially those imported from counties where rinderpest, Pleuro-pneumonia and other contagious diseases prevail. In reply you are informed that the importation of neat cattle, and hides of neat cattle is prohibited unless accompanied by a certificate of the U. S. Consul, showing that they are not infected with dangerous or contagious diseases. This regulation is now enforced strictly in regard to such importations from all European countries.

In case the department should be informed that such dangerous diseases prevail to a considerable extent in any foreign country, severer measures, restrictive of such importations, would probably be taken in regard to importations therefrom.

Very respectfully,

H. F. FRENCH,
Assistant Secretary.

Secretary presented bill introduced in Congress by Representative Fort, of Illinois, providing for a National Board of Agriculture.

On motion of Mr. Gillham,

The bill of Representative Fort was referred to a committee of three for consideration and report.

President Appointed as said Committee, Meessrs. Gillham, Smith and Voorhies.

Mr. Smith moved

That a sweepstakes premium be provided for "Best Milch Cow."

Mr. Voorhies moved as a substitute,

That a premium be offered for the "Best Milch Cow of any recognized Breed." Substitute lost, and

The motion of Mr. Smith adopted.

Mr. Haskell introduced the following resolution, which,

On motion of Mr. Beaty,

Was adopted:

Resolved, That the Secretary have printed for distribution among the schools of the State, 2,000 copies of the list of premiums for school work.

On motion of Mr. Ellsworth,

The Board adjourned until 2 o'clock p. m.

AFTERNOON SESSION—2 O'CLOCK.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, Ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Stookey and Landrigan.

The special order being the receiving of proposals for locating the State Fair, for the years 1879 and 1880; and coming up,

On motion of Mr. Haskell,

Localities desiring to have the Fair, were given an opportunity of presenting proposals.

T. D. Hartzen, J. M. Hamilton and others of Bloomington, called attention to the superior advantages of that city.

H. L. Clay, George N. Loomis, W. P. Callon and others, of Jacksonville, invited the Board to locate the Fair in that city, and presented the advantages of that point, in the way of transportation facilities, etc.

Geo. M. McCutcheon, H. M. Lewis and others, presented the claims of Monmouth, as a most favorable location.

John M. Palmer and others invited the Board to locate the Fair at Springfield.

On motion of Mr. Ellsworth,

The Board went into executive session to consider the several propositions.

On motion of Mr. Landrigan,
The vote on the location of the State Fair, was to be decided by ballot.

On motion of Mr. Landrigan,
Secretary Fisher and Assistant Secretary Mills, were appointed tellers.

The first ballot resulted as follows: Bloomington 2, Jacksonville 3, Springfield 13—total 18.

On motion of Mr. Smith,

The vote in favor of Springfield was made unanimous.

The following proposition of the Springfield committee was then taken up and after due consideration approved:

SPRINGFIELD, ILL., February 18, 1879.

To the State Board of Agriculture:

We have the honor to present herewith, application for the location of the Illinois State Fair, at Springfield, for the years 1879 and 1880.

The papers presented herewith contain a good and sufficient bond that all the specifications of your Board shall be complied with to the letter—a communication from the officers of the Sangamon County Agricultural Board stating the action of the stockholders of the organization—letters from all the railroads at this point, giving the usual excursion rates for passengers and reduced rates for articles and stock exhibited at the State Fair, as well as assurances from hotels that only the usual rates will be charged during the continuance of the Fair.

JOHN A. MCCLERNAND,
HENSON ROBINSON,
W. H. STALEY,
J. E. K. HERRICK,
GEO. W. CHATTERTON, Jr.,
T. S. WOOD,
W. P. EMERY,
A. McLAUGHLIN,
E. F. LEONARD,
JOHN M. PALMER,
W. D. RICHARDSON,
J. H. SCHUCK,
J. O. RAMES,
JOHN FOUTCH,
W. J. CONKLING,
LOTUS NILES,
W. H. HENKLE,
CHARLES F. MILLS.

OFFICE SANGAMON COUNTY AGRICULTURAL BOARD, }
SPRINGFIELD, ILL., February 17, 1879.

To the State Board of Agriculture:

We have the honor to inform you that at a meeting of the Sangamon County Agricultural Board, held in this city on the 28th day of January, 1879, the following resolution was adopted:

Resolved, That the use of the grounds of the association be granted for the purpose of holding the State Fair for the next two years, viz: 1879 and 1880.

We beg to present a copy of the above resolution and to inform you that the citizens of Springfield are ready to comply with the specifications of requirement of your Board, and will give satisfactory bond to secure the fulfillment of this office.

Respectfully submitted on behalf of the Sangamon county Agricultural Board.

JOHN A. MCCLERNAND,
President.
HENSON ROBINSON,
Treasurer.

Attest: W. H. STALEY, Secretary.

BOND.

Know all men by these presents that we, J. H. Schuck, Frank W. Tracy, D. T. Littler, J. Taylor Smith, John W. Bunn, S. H. Jones, Gregor Thoma, Frank Reisch, Z. A. Enos and John M. Palmer, of the county of Sangamon and State of Illinois, are held and firmly bound unto the Illinois State Board of Agriculture in the penal sum of Ten Thousand dollars lawful money, to the payment of which well and truly to be made, we bind ourselves, our heirs, executors and administrators jointly and severally by these presents. Signed with our names and sealed with our seals and dated at Springfield this 18th day of February, A. D. 1879.

The condition of the above obligation is such that whereas certain citizens of the city of Springfield have applied to the said The Illinois State Board of Agriculture to locate

the State Fair of the said society for the years 1879 and 1880, on the grounds of the Sangamon County Agricultural Society, and the said application is now being considered by the said Illinois State Agricultural Society—now if the said Illinois State Agricultural Society shall locate the said State Fair according to the above named application and the said applicants or the undersigned whose signatures appear to this obligation shall faithfully and fully comply with and perform all the specifications and conditions contained in a certain printed paper hereto attached, entitled "Specifications of the requirements made by the Illinois State Board of Agriculture of localities bidding for the State Fairs for 1879 and 1880," and the times and in the manner in said printed paper particularly specified, the same being made part of this obligation, then the foregoing obligation shall cease and be void otherwise remain in full force and virtue.

{ SEAL }

GREGOR THOMA,
FRANK REISCH,
J. H. SCHUCK,
FRANK W. TRACY,
D. T. LITTLER,
J. TAYLOR SMITH,
Z. A. ENOS,
JOHN M. PALMER,
JOHN W. BUNN,
S. H. JONES..

RAILROADS.

CHICAGO & ALTON RAILROAD COMPANY, }
GENERAL MANAGER'S OFFICE,
CHICAGO, ILL., February 17th, 1879. }

D. Gwynn, Esq., Freight Agent, Springfield, Ill.:

We have already given rates to the Agricultural Board similar to those that have been in effect for several years, and they are satisfactory to the Board.

J. C. McMULLEN,
General Manager.

NOTE.—Passengers 1 1-5 rate for round trip; freight not sold one-half regular rate

WABASH RAILWAY, }
OFFICE SUPERINTENDENT WESTERN DIVISION,
SPRINGFIELD, February 18th, 1879. }

Henson Robinson, Esq., Treasurer Sangamon County Agricultural Board:

DEAR SIR:—The Wabash Railway will make the usual reduction in fare and freight for the Illinois State Fair for 1879 and 1880, viz: half rates on articles and stock for exhibition, returning without being sold, and one fare and one-fifth for round trip for passengers.

Yours truly,

C. H. CHAPPELL,
Division Superintendent.

ILLINOIS CENTRAL RAILROAD COMPANY, }
OFFICE OF DIVISION SUPERINTENDENT,
SPRINGFIELD, February 18th, 1879. }

Henson Robinson, Esq., Springfield, Illinois:

DEAR SIR:—You are authorized on behalf of the Illinois Central Railroad Company to say to the State Fair authorities that as far as our line is concerned, we will carry passengers and freight at the customary reduced rates—the same as other lines in similar circumstances.

Yours truly,

T. J. HUDSON,
Division Superintendent.

OHIO AND MISSISSIPPI RAILWAY, }
OFFICE GENERAL TICKET AGENT,
SAINT LOUIS, MO., February 17, 1879. }

H. H. Beecher, Esq., Springfield, Illinois:

DEAR SIR:—Please say to the committee on State Fair that in the event of Springfield being settled upon as the point to hold the next State Fair, we will make one and one-fifth rate on passengers from all points on our line.

Yours respectfully,

CHARLES S. CONE,
General Ticket Agent.

Statement by Committee.—B. Williams, freight agent, gave assurance that freight on articles exhibited at the State Fair would be returned free by the Ohio & Mississippi Railway.

GENERAL OFFICE,
 SPRINGFIELD & NORTHWESTERN RAILWAY,
 SPRINGFIELD, ILL., February 17, 1879. }

The S. & N. W. Railway Company agree, if the State Fair is located at Springfield, to make the usual reduction on freight and passengers. That is charge the regular rate on stock and other articles for the fair and return them free if owned by the same parties, and to charge passengers one and one-fifth fare for the round trip.

JOHN WILLIAMS,
 President.

HOTELS.

SPRINGFIELD, ILL., February 18, 1879.

Henson Robinson, Esq., Treasurer Sangamon County Agricultural Board:

DEAR SIR:—In case the State Fair for the years 1879 and 1880 is located in our city the hotel keepers agree not to charge above usual rates during the Fair weeks.

N. B. WIGGINS,
 Chairman Hotel Committee. .

THE SPRINGFIELD WATER WORKS, }
 SPRINGFIELD, ILL., February 18, 1879. }

H. Robinson, Esq.:

DEAR SIR:—At a meeting of the Board of Water Commissioners held December 4, 1876, it was

Resolved, That in case the State Fair is located in Springfield, water shall be furnished without charge, except for the service of a man to watch the valves and turn the water on and off as needed.

Yours respectfully,

L. R. BROWN,
 Secretary.

On motion of Mr. Gillham,

A vote of thanks was tendered to the points competing for the location of the State Fair, for the generous proposals made by the respective localities and the hearty tender of co-operation with the Board in the work of advancing the agricultural interests of the State.

On motion of Mr. Voorhies,

A premium of \$50, and a second premium of \$25, was provided for milch cows—Lot 19.

Mr. Reynolds moved that the following requirements be published at the head of the lot for milch cows:

The cows to be kept on grass only, during the experiment of ten days, and ten days previous. Statement to be furnished containing—

1st. The age and breed of the cow and time of calving.
 2d. The quantity of milk in weight and measurment during the period of ten days.

3d. The statement to be verified by the affidavit of the competitor.

Mr. Smith moved to amend, by requiring the same statements to be made of exhibitors of all milk breeds.

Amendment lost.

Motion requiring statement of milch cows lost.

Mr. Douglas moved that the usual number of complimentary tickets to the State Fair, be issued to the officers and members of the Board.

Mr. Landrigan moved to amend,

By granting each officer and member of the Board, fifty complimentary or less, as they may designate.

Amendment carried.

When the motion of Mr. Douglas, as amended, was adopted.
Mr. Gillham introduced the following resolution, which,

On motion of Mr. Ellsworth,
Was adopted:

Resolved, That editors and crop correspondents, meteorological observers and expert committeemen be furnished coupon admission tickets by the Secretary.

Committee appointed to prepare premium for the Dairy Exhibit Fat Stock Show, made the following report:

To the State Board of Agriculture:

Your committee on classification of dairy premiums would report that they have consulted with the Northwestern, and the Illinois Dairymen's Associations, and would recommend that the following premiums be offered for dairy products, at the Second Annual Fat Stock Show for 1879.

Respectfully submitted,

LEWIS ELLSWORTH,
GEO. S. HASKELL,
H. D. EMERY,
Committee.

CLASS G-DAIRY PRODUCTS.

1. The scale of points for judging dairy products will be on a basis of 50 as perfection, as follows: flavor, 15; keeping, 15; texture, 10; color, 5; make, 5.
2. Entries for the several premiums named scoring at least 45 points in a scale of 50 as perfection, shall draw pro rata share of the amounts offered.

CHEESE.

LOT 27—FACTORY CHEESE.

For each exhibit of three or more boxes of cheese, aggregating not less than 150 pounds, made at any time, a pro rata share.....\$150 00

LOT 28—FARM DAIRY CHEESE.

For each exhibit of three or more boxes of Cheese, aggregating not less than 150 pounds, made at any time, a pro rata share..... \$150 00

LOT 29—SWEEPSTAKES CHEESE.

For best exhibit of three or more boxes of Cheese, aggregating not less than 150 pounds, made at any time, by factory or dairy..... \$25 00

BUTTER.

LOT 30—CREAMERY BUTTER.

For each exhibit of two or more tubs of Butter, aggregating not less than 100 pounds, made at any time, a pro rata share of.....\$150 00

LOT 31—DAIRY BUTTER.

For each exhibit of two or more tubs of Butter, aggregating not less than 50 pounds, made at any time, a pro rata share..... \$75 00

LOT 32—SWEEPSTAKES BUTTER.

For best exhibit of two or more tubs of Butter, aggregating not less than 50 pounds, made at any time, by factory or individual..... \$25 00

LOT 33—GRAND SWEEPSTAKES BUTTER.

Open to all.

For best display of Dairy Products—Butter and Cheese.....Diploma and \$100 00

On motion of Mr. Dysart,
The report was adopted and the committee discharged.

On motion of Mr. Smith,
The Board adjourned to 8 o'clock p. m.

EVENING SESSION—8 O'CLOCK.

Board met as per adjournment.

President Scott in the chair.

Present: President Scott, ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Smith, Voorhies, Bishop, Pullen, Stookey, and Landrigan.

On motion of Mr. Dysart,

A diploma was awarded Mr. Charles Millar, of Williamsville, Ill., for the *heaviest* steer exhibited at the Chicago Fat Stock Show, in 1878, and to William Pawley, Plattsburg, Mo., a silver medal, for car load of the fattest steers, 2 and under 3 years of age, exhibited at said Fat Stock Show.

On motion of Mr. Reynolds,

The printing committee were authorized to have published 15,000 copies of the Premium List, for the next Fair—the printing committee to have discretion in the matter of admitting advertisements of agricultural papers to the Premium List.

On motion of Mr. Dysart.

The following rule was ordered printed in the Fat Stock Premium List, at the head of the cattle class, viz:

"Cattle must be well halter-broken, and vicious animals will not be admitted to the exposition building."

Mr. Beaty called to the chair.

Mr. Scott, chairman committee on military prize drill, made the following report, which was received:

To the State Board of Agriculture:

Your committee to whom was referred the communication of Adjutant General Hillard, requesting that premiums be offered by this Board for competitive drill at the next State Fair, between the Infantry companies of the Illinois National Guard, would report that the matter has had due consideration and recommend that premiums be offered in conformity therewith.

Your committee would further recommend that the premiums and conditions governing the contest be as follows.

Respectfully submitted.

J. R. SCOTT.
E. COBB.
W. M. SMITH.
S. DOUGLAS.
D. B. GILLHAM.

Committee.

1. No company will be allowed to compete with less than 40 men, and they must be members of the company competing. Every additional man over the minimum number 40 will be counted in the score.
2. Upton's United States Infantry Tactics must be strictly adhered to, and no points will be allowed for fancy drill not found in said tactics.
3. The score will be registered as follows: Excellent, 3; very good $2\frac{1}{2}$; good, 2; not good, $1\frac{1}{2}$; bad, 1; very bad, 0.
4. Companies desiring to compete will notify the Secretary of the Board on or before September 1, 1879.
5. Companies will provide themselves with transportation, quarters and rations.
6. The day and hour that the several companies are to appear on the Fair Grounds for drill will be announced on or before September 15, 1879.
7. For further information address the Secretary of the State Board of Agriculture, or the Adjutant General, Illinois National Guard, Springfield, Illinois.
8. Judges, programme and other particulars will be indicated in due time.

PRIZE DRILL.

Best Drilled Company.....	\$400 00
Second best.....	300 00
Third best.....	200 00
Fourth best.....	100 00
Fifth best.....	50 00

On motion of Mr. Moore,

The report was adopted.

On motion of Mr. Voorhies,

The appointment of a superintendent for Class M—Military—was left with the President.

The President appointed Mr. Gillham, as superintendent Class M—military.

On motion of Mr. Smith,

The consideration of the matter of holding a Fat Stock Show, was taken up, when,

On motion of Mr. Gillham,

The rules, regulations and classification of premiums for the Fat Stock Show, to be held in Chicago, commencing November 10th, 1879, as recommended by the committee, were adopted.

The committee on programme for the State Fair, made the following report:

To the State Board of Agriculture:

Your committee on programme would report and recommend substantially, the same order for exhibiting stock as adopted and published in the premium list last year, including the new lots that have been provided for, at the recent meetings of the Board. The new lots have been arranged to suit the conveniences of the superintendents of live stock classes.

Respectfully submitted,

SAMUEL DYSART.
JOHN LANDRIGAN.
D. W. VITTUM, JR.
W. VOORHIES, JR.

On motion of Mr. Gillham,

The printing committee were authorized to have 2,000 copies of the Fat Stock premium list published for distribution.

On motion of Mr. Beaty,

The number of complimentary tickets for the Fat Stock Show, was limited to ten for each officer and member of the Board.

On motion of Mr. Gillham,

The President was authorized to enter into contract with the Exposition Company, of Chicago, for the use of said building during the Fat Stock Show, on the same terms as agreed upon last season.

Minutes of the sessions of to-day were read, and

On motion of Mr. Smith,

Adopted.

On motion of Mr. Gillham,

The Board adjourned subject to the call of the President.

JAMES R. SCOTT, President.

S. D. FISHER, Secretary.

MEETINGS DURING THE FAIR.

LELAND HOTEL, }
 SPRINGFIELD, ILLINOIS. }

WEDNESDAY, *October 1*, 1879, 8 o'clock P. M.

Board met in special session as per call of the President.

President Scott in the chair.

Present: President Scott, Ex-President Gillham, Vice Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Stookey, Washburn and Landrigan.

Mr. Vittum, Superintendent Class C—Sheep—stated that there were two lots of sheep entered for exhibition in the long wool class—Lot 41—as pure breeds, not heretofore recognized by the Board as a distinct breed; and moved that a special committee of three be appointed with power to act and report their action to the Board.

Motion carried, and

The President appointed Messrs. Vittum, Reynolds and Voorhies, said committee.

Mr. Douglas called attention to the limited quantity and variety of grains and seeds exhibited by the Stark county Agricultural Board, which, in the opinion of the awarding committee, did not constitute a full display as contemplated by the Board and named in the premium list.

Motion of Mr. Douglas carried—

That the President and two members of the Board constitute a committee to examine the display and decide the question of making an award.

The President appointed with himself as said committee Messrs. Douglas and Pullen.

Motion of Mr. Smith carried—

That the licenses of certain boisterous peddlers be revoked and the money received for privileges of selling articles on the Fair grounds refunded.

Motion of Mr. Cobb carried—

That hucksters and peddlers be assigned locations where they will not obstruct the passage of or annoy visitors, and that the General Superintendent be empowered to enforce this regulation.

Motion of Mr. Smith carried—

That the General Superintendent be instructed to close up the stand or booth of any party selling beverages other than such as are specified in his permit.

Mr. Reynolds moved,

That the time for holding the Fat Stock Show be postponed two weeks.

On motion of Mr. Gillham,

The consideration of the question of postponement was made the special order for to-morrow evening.

Mr. Dysart presented the following petition from the exhibitors of Jersey, Holstein and Ayrshire cattle, when,

On motion of Mr. Cobb,

The consideration of the petition was deferred until the winter meeting:

ILLINOIS STATE FAIR GROUNDS, }
SPRINGFIELD, September 29, 1879. }

To the State Board of Agriculture:

The undersigned breeders of Jersey, Ayrshire and Holstein cattle, representing all the exhibitors of the above named breeds of cattle at the Illinois State Fair for 1879, would respectfully petition your honorable body to allow each of the several breeds to show separately, in Lots, 13, 14 and 15 for milk breeds, and to be judged upon their respective merits.

The several breeds originated in different localities, have been reared under widely different circumstances, for different purposes, and in form, markings and product have nothing in common with each other.

The peculiar merits of the various breeds and the purposes for which they are bred are well known to your honorable body, and the undersigned respectfully request, that the amount of premiums apportioned to lots 13, 14 and 15, be divided equally among the three breeds named, to-wit: Jerseys, Ayrshires and Holsteins, and offered the separate breeds as specified in the lots named, excepting 13.

The premiums in Lot 13, are a repetition of the Herd premiums offered the several breeds of cattle in the Sweepstakes Rings, and your petitioners would suggest that the amount be equally divided among the three breeds named and given as second and third Sweepstakes premiums for Herds.

V. BARBER, Decatur.
S. STRATTON, Litchfield.
T. C. MURPHY, Greene Valley.
D. H. TRIPP & CO., Peoria.
CHURCHMAN & JACKSON, Indianapolis, Ind.
MRS. E. M. LOOSE, Springfield.
J. WEBER ADAMS, Freeport.
Breeders of Jerseys.

W. H. H. GREEN, Maquon.
W. A. PRATT, Elgin.
DEXTER SEVERY, Leland.
PAUL ROTHBARTH, Chicago.
E. A. TEFFT, Elgin.
Breeders of Holstein.

W. C. NORTON, Aldenville, Pa.
JOHN STEWART, Blackberry Station.
N. N. JONES, Normal.
Breeders of Ayrshires.

On motion of Mr. Cobb,
The Board adjourned to meet on call of the President.

LELAND HOTEL, }
SPRINGFIELD, ILLINOIS }

THURSDAY, October 2, 1879, 8 o'clock P. M.

Board met in special session as per call of the President.

Present: President Scott, Ex-President Gillham, Vice Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Stookey, Washburn and Landrigan.

Motion of Mr. Landrigan carried—

That the Superintendent of class B—Horses, be authorized to arrange for a running race for Friday at 2 o'clock p. m., provided thoroughbred running horses are volunteered for that purpose.

Mr. Vittum, Chairman of Special Committee, made the following report:

To the State Board of Agriculture:

Your committee would report that they have examined the long wool sheep entered in lot 41, and decide that the sheep exhibited by Lee Hickox, of Springfield, are eligible to

show as Lincolns, and the sheep of W. L. Scott, of Scotts Station, Kentucky, can be shown if satisfactory certificate be made as to purity of breeding direct from the flock of Robert Scott and known as pure Kentucky Long Wool Sheep.

Respectfully submitted,

D. W. VITTUM, Jr.,
Chairman Committee.

On motion of Mr. Pullen,

Superintendent Haskell was allowed \$10 00 for the payment of extra services rendered by assistants in decorating floral hall.

On motion of Mr. Beaty,

The Superintendent of Class F, Sec. 1—Mechanic Arts—was authorized to make mention in his report, of exhibits worthy of special commendation, provided, that nothing shall be said or done in the premises which may be construed as passing upon the comparative merits of said machines or exhibits in competition with others on exhibition of the same character and purpose.

Mr. Douglas, of committee to examine the display of Stark county Agricultural Board, made the following report, which was adopted:

To the State Board of Agriculture:

Your committee have examined the exhibit of the Stark county Agricultural Board, and while the exhibit is not complete in variety, and limited in quantity, it is creditable and worthy of recognition, and your committee would recommend a premium of \$10 00.

Respectfully,

S. DOUGLAS.

The consideration of the motion of Mr. Reynolds to postpone the Fat Stock Show for two weeks, being the special order, and coming up,

On motion of Mr. Gillham,

The date of holding the Fat Stock Show was not postponed.

On motion of Mr. Cobb,

Messrs. Landigran, Voorhies, Emery, Epler and Douglass, were added to the committee of arrangements, for the Fat Stock Show.

Mr. Smith moved,

That there be no show of horses in connection with the Fat Stock Show, and that Class B—Horses, be stricken from the list.

Mr. Reynolds moved, as a substitute,

That the matter of admitting horses at the Fat Stock Show, be referred to the President and Ex-President, who are hereby authorized to give proper notice, to parties intending to show horses, on or before the 1st day of November, if space cannot be given for the exhibition of horses.

On motion of Mr. Gillham,

The Secretary was instructed to issue checks in payment for State Fair premiums at 2 o'clock, p. m., to-morrow, Friday.

The following communication was read, when,

On motion of Mr. Ellsworth,

The consideration of the proposition was postponed until the winter meeting.

NEW YORK, September 23, 1879.

S. D. Fisher, Esq., Secretary Department of Agriculture, Springfield, Illinois:

DEAR SIR:—Referring to my previous letter to you and the work in which I am engaged the preparation of plans for the organization of a National Agricultural Society in this country. My thought is an association that will represent every section of the country, and embrace every agricultural interest. Its object, the advancement and protection of American agriculture, through the medium of an annual display of farm products, in some principal city, and the publication of the best thoughts and experiences of the best minds on agricultural matters.

England, as you know has such an association, and leading men whom I have consulted unite in the view that the society proposed, could be made an instrument of great good. I solicit your valuable co-operation and advice and suggestions.

Will you attend a meeting in this city, at an early date, for consultation, and can you favor me with the names of other representative gentlemen who will do the same?

An early reply will greatly oblige.

Yours very truly,

J. H. REAL.

On motion of Mr. Cobb,
The Board adjourned subject to call of the President.

LELAND HOTEL, }
SPRINGFIELD, ILLINOIS. }

FRIDAY, *October 3*, 1879, 8 o'clock P. M.

Board met in special session on call of the President.

Present: President Scott, Ex-President Gillham, Vice-Presidents Ellsworth, Emery, Haskell, Moore, Dysart, Snoad, Cobb, Douglas, Beaty, Epler, Smith, Bishop, Pullen, Stookey and Washburn.

Motion of Mr. Smith carried—

That the several items for lumber charged in the account of A. Haynes, of Springfield, and used in the various departments be referred to the respective superintendents for their approval.

Motion of Mr. Beaty carried—

That the President and two members of the Board be appointed a committee to investigate and report the amount of expenses incurred by the Board on account of the failure of the local committee to complete arrangements for the Fair according to the specifications of requirements.

Motion of Mr. Gillham carried,

That the Board proceed to take the necessary steps to collect from the bondsmen of the local committee the amount expended for construction, etc., by the State Board of Agriculture in fitting up the Sangamon County Fair Ground, and called for in the specification of requirements, also for the amount claimed by exhibitors for damages in consequence of the failure of the local committee to complete specified arrangements in the matter of steam power.

President appointed as his associates on said committee, Messrs. Stookey and Smith.

Motion of Mr. Cobb carried—

That the claims of Tile manufacturers and others for damage for want of sufficient steam power be referred to the committee on damage and shortage.

The following protest was presented:

John P. Reynolds, Superintendent Class L. Natural History:

I hereby protest the second award in entomology on grounds of not being classified.

W. BRADDOCK,
For W. NINDEL.

STATE OF ILLINOIS, }
SANGAMON CO. }

Personally appeared before the undersigned justice of the peace of said county and made oath to the above protest.

[Signed]

A. H. MAGIE, J. P.

On motion of Mr. Haskell,
The protest was not sustained.

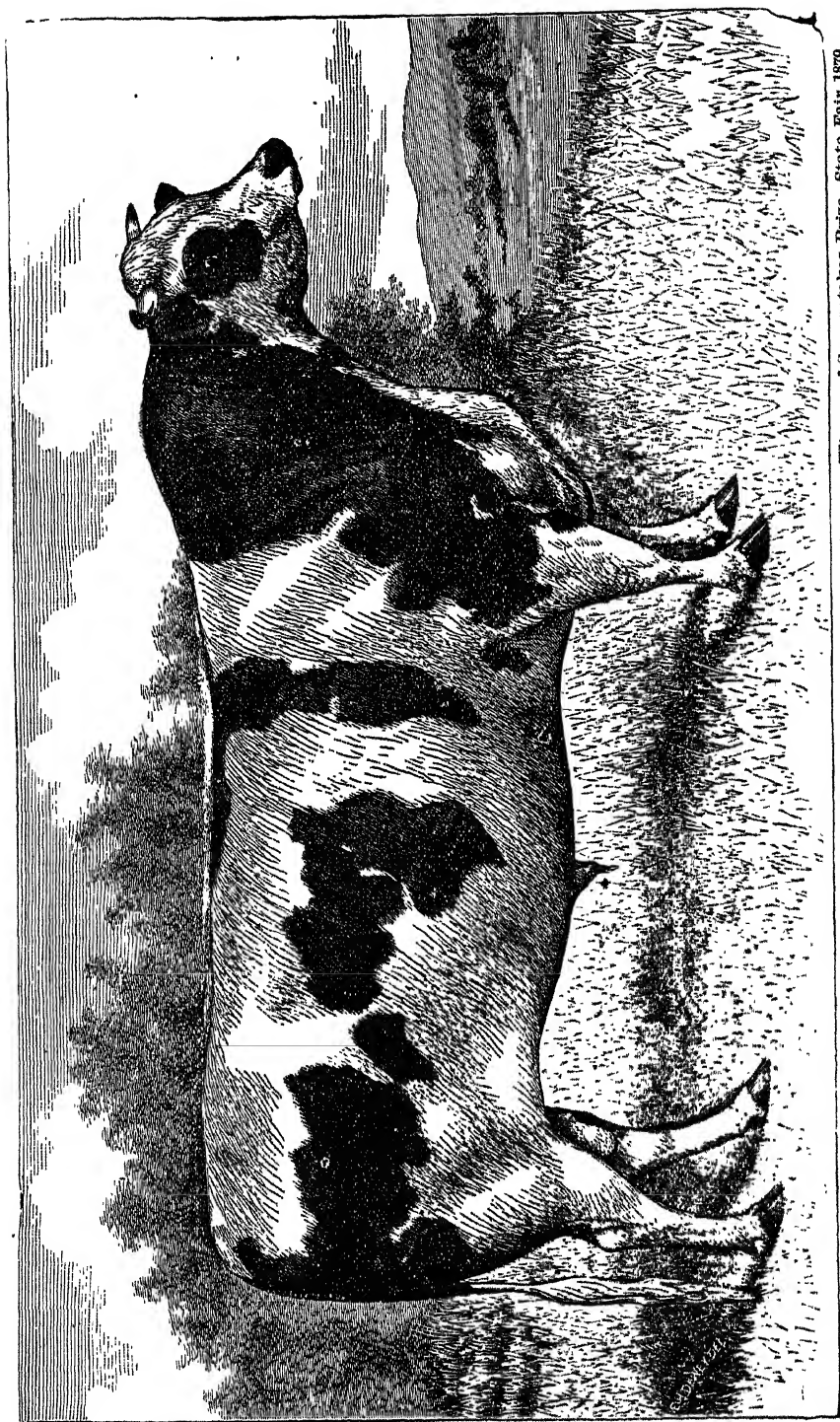
On motion of Mr. Stookey,
The Board adjourned subject to call of the President.

S. D. FISHER,

Secretary.

JAMES R. SCOTT,

President



HOLSTEIN BULL "SECOND CONSUL."—Exhibited by DEXTER SEEVERY & SON, Leland, Illinois. Winner of Sweepstakes Prize, State Fair 1879.

LIST OF AWARDS

AT THE

ILLINOIS STATE FAIR FOR 1879.

SPRINGFIELD, SEPTEMBER 29, TO OCTOBER 4.

CLASS A—CATTLE.

SAMUEL DYSART, *Superintendent.*

LOT 1—SHORT HORNS.

Bull three years old or over—3 entries:	
First premium, J. H. Potts & Son, Jacksonville.....	\$25 00
"Frederick William, No. 23195," red; calved Nov. 30, 1875; bred by Edward Iles, Springfield; sire, Duke of Richmond 21525; dam, Sanspareil 25th; by Imperial Sheriff 29964.	
Second premium, J. H. Potts & Son, Jacksonville.....	15 00
"Duke of Richmond 21525," red; calved March 16, 1873; bred by James Bruce, Scotland; sire, Lord Leonards (29202), dam Fanny, got by Royal Errant (22780); dam Flora, got by Gipsy Chief (15335.)	
Bull, 2 years old and under 3—1 entry:	
First premium, J. H. Potts & Son, Jacksonville.....	25 00
"Major Richmond, 30253," red with star; calved May 26, 1877; bred by J. H. Potts & Son, Jacksonville; sire, Duke of Richmond, 21525; dam, Fanchette; by Master Geneva, 20368.	
Bull, 1 year old and under 2—2 entries:	
First premium, J. H. Potts & Son, Jacksonville.....	20 00
"Master Richmond, 33239, red; calved March 4, 1878; bred by J. H. Potts & Son, Jacksonville; sire, Imp. Duke of Richmond, 21525; dam, Phillis, of Oakland, by Master Geneva, 20368.	
Second premium, S. E. Prather, Sherman.....	10 00
"Prince Leopold," red roan; calved October 29, 1877; bred by S. E. Prather; sired by Imp. Bruere's Booth, 4819; S. H. R. dam, Minaret, by 1484 Imp. British Baron, [1025] (13557).	
Bull, under 1 year old and over 6 months—2 entries:	
First premium, J. H. Potts & Son, Jacksonville.....	15 00
"Frederick William 3d," red; calved November 1, 1878; bred by J. H. Potts, Jacksonville; sire, Frederick William, 23195; dam, 2d Louan of Linwood.	
Second premium, J. H. Potts & Son, Jacksonville.....	10 00
"Duke of Oakland," red; calved December 17, 1878; bred by J. H. Potts & Son, Jacksonville; sire, Imp. Duke of Richmond, 21525; dam, Queen Charlotte 4th, by Starlight 11018.	
Bull Calf, under 6 months old—1 entry:	
First premium, S. E. Prather, Sherman.....	15 00
"Prince Arthur," red; calved April 12, 1879; bred by S. E. Prather, Sherman; sired by Oxford Bates, 24210; dam, Minaret, by 1484 Imp. British Baron, [1025] (13557).	
Cow, 4 years old or over—3 entries:	
First premium, J. H. Potts & Son, Jacksonville.....	25 00
"Josie 2d," red with little white; calved June 18, 1874; bred by J. H. Potts & Son, Jacksonville; sire, Master, Geneva, 20368; dam, Josie; by Duke of Scott, 8020.	
Second premium, S. E. Prather, Sherman.....	15 00
"3d Queen of Riverdale," red; calved October 29, 1874; bred by S. E. Prather, Sherman; sire, 5348; Jubilant, 10309; dam, Queen of Riverdale, by 2347; Monitor, 7044.	

Cow, 3 years old and under 4-5 entries:

First premium, J. H. Potts & Son, Jacksonville.....	\$25 00
"Priscilla 8th"; red; calved April 21, 1878; bred by Birrell & Johnston, Canada; sire, 3d Lord of Racine, 21649; dam, Imp. Priscilla 7th; by Lord St. Leonards, 29202.	
Second premium, S. E. Prather, Sherman.....	15 00
"Lilly Dale 2d"; red roan; calved April 23, 1876; bred by S. E. Prather, Sherman; sire, Imp. Bruero's Booth, 4,819, S. H. R.; dam, Lilly Dale, by 2347, Monitor, 7044.	

Cow, 2 years old and under 3-4 entries:

First premium, J. H. Potts & Son, Jacksonville.....	25 00
"Maria Woods 8th," red; calved September 29th, 1877; bred by J. H. Potts & Son, Jacksonville; got by Imp. Duke of Richmond, 21525; dam, Maria Woods, 7th.	
Second premium, J. H. Potts & Son, Jacksonville.....	15 00
"Fannie Airdrie 2d"; red; calved May 23, 1877; bred by J. H. Potts & Son, Jacksonville; got by Imp. Duke of Richmond, 21525; dam, Fannie Airdrie.	

Heifer 1 year old and under 2-5 entries:

First premium S. E. Prather, Sherman.....	20 00
"5th Queen of Riverdale," red; calved Oct. 5, 1877; bred by S. E. Prather, Sherman; sire, Imp. Bruero's Booth 4819; S. H. R., dam Queen of Riverdale.	
Second premium, J. H. Potts & Son, Jacksonville.....	10 00
"Emma 5th," red; calved Sept 12, 1878; bred by J. H. Potts & Son, Jacksonville, got by Frederick William 23195; dam Imp. Emma 3d.	

Heifer under 1 year old and over 6 months-4 entries:

First premium, J. H. Potts & Son, Jacksonville.....	15 00
"Lillie Lovett 5th," calved Jan. 22, 1879; bred by J. H. Potts & Son, Jacksonville; sire Frederick William 23195; dam Lillie Lovett 4th, by Jack Tar 14559.	
Second premium, S. E. Prather, Sherman.....	10 00
"8th Queen of Riverdale," red, calved Nov. 10, 1878; bred by S. E. Prather, Sherman; sired by Imp. Bruero's Booth 4819, S. H. R., dam Queen of Riverdale, by 2347 Monitor, 7044.	

Awarding Committee—J. H. Cheney, Bloomington; Wm. Stocking, Rochelle; Geo. H. Stookey, Belleville.

LOT 2—SWEEPSTAKES—SHORT HORNS.

Bull, of any age-6 entries:

Premium, J. H. Potts & Son, Jacksonville.....	\$25 00
"Frederick William."	

Cow or Heifer, of any age-9 entries:

Premium, J. H. Potts & Son, Jacksonville.....	25 00
"Priscilla 8th."	

Bull and 5 Cows or Heifers, 1 year old or over, owned by one individual or previously existing firm-4 entries:

Premium, J. H. Potts & Son, Jacksonville.....	40 00
"Frederick William," "Josie 2d," "Josie 3d," "Priscilla 8th," "Lady Athelstane," "Fanny Airdrie 2d."	

Awarding Committee—J. H. Cheney, Bloomington; Wm. Stocking, Rochelle; Geo. H. Stookey, Belleville.

LOT 3—HEREFORDS.

Bull, 3 years old or over-4 entries:

First premium, T. L. Miller, Beecher.....	\$25 00
Success, 5031; red with white face; calved February 22, 1873; bred by John Morris; sire, Banquo, 3667; dam, Dolly Varden.	
Second premium, C. M. Culbertson, Chicago.....	15 00

Bull, 2 years old and under 3-1 entry:

First premium, C. M. Culbertson, Chicago.....	25 00
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Bull, 1 year old and under 2-1 entry:

First premium, C. M. Culbertson, Chicago.....	20 00
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Bull, under 1 year old and over 6 months-3 entries:

First premium, T. L. Miller, Beecher.....	15 00
"Dictator, 1889," red with white face; calved November, 22, 1878; bred by Fielding W. Smith, Rochepoort, Mo.; sire, Seventy Six; dam, Victoria.	
Second premium, C. M. Culbertson, Chicago.....	10 00

Bull Calf, under 6 months old—2 entries:	
First premium, C. M. Culbertson, Chicago.....	\$15 00
Second premium, C. M. Culbertson, Chicago.....	10 00
Cow, 4 years old or over—2 entries:	
First premium, T. L. Miller, Beecher.....	25 00
"Prairie Flower;" red with white face; calved Nov. 7, 1874; bred by T. L. Miller, Beecher; sire, Success 5031; dam, British Lady.	
Second premium, T. L. Miller, Beecher.....	15 00
"Victoria;" red with white face; calved Dec. 20, 1873; bred by T. L. Miller, Beecher; sire, Sir Charles 3434; dam, Lily of the Valley.	
Cow, 3 years old and under 4—1 entry:	
First premium, C. M. Culbertson, Chicago.....	25 00
Heifer, 2 years old and under 3—6 entries:	
First premium, T. L. Miller, Beecher.....	25 00
"Highland Queen" 1141; red with white face; calved April 7, 1877; bred by T. L. Miller, Beecher; sire, Success 5031; dam, Baroness 9th.	
Second premium, C. M. Culbertson, Chicago.....	15 00
Heifer 1 year old and under 2—5 entries:	
First premium, C. M. Culbertson, Chicago.....	20 00
Second premium, C. M. Culbertson, Chicago.....	10 00
Heifer under 1 year old and over 6 months—4 entries:	
First premium, T. L. Miller, Beecher.....	15 00
"Miss Filley 1999," red, with white face, calved Oct. 15, 1878; bred by H. O. McKnight, Penn; sire, Duke of Edinburg, dam, Lizzie.	
Second premium, C. M. Culbertson, Chicago.....	10 00

Heifer Calf under 6 months old—no entries:

Awarding Committee—William Stocking, Rochelle, J. H. Cheney, Bloomington; Geo. H. Stookey, Belleville.

LOT 4—SWEEPSTAKES—HEREFORDS.

Bull of any age—5 entries:	
Premium, C. M. Culbertson, Chicago.....	\$25 00
Cow or Heifer of any age—8 entries:	
Premium, T. L. Miller, Beecher.....	25 00
Highland Queen, 1141.	
Bull and 5 Cows or Heifers, 1 year old or over, owned by one individual or previously existing firm—2 entries:	
Premium, T. L. Miller, Beecher.....	40 00
"Seventy Six"—"Victoria"—"Prairie Flower"—"Highland Queen"—"Charity"—"Maid of Orleans."	
<i>Awarding Committee</i> —Wm. Stocking, Rochelle; J. H. Cheney, Bloomington; Geo. H. Stookey, Belleville.	

LOT 5—HOLSTEINS—THOROUGHbred.

Bull, 3 years old or over—3 entries:	
First premium, Dexter Severy, Leland.....	\$25 00
"Second Consul No. 339;" calved Jan. 4, 1876; bred by Wm. A. Russell, Lawrence, Massachusetts; sire, Dictator 82; dam, Lavinia 168.	
Second premium, W. A. Pratt, Elgin.....	15 00
"Duke of Hanover 227;" black and white; calved Jan. 10, 1876; bred by F. W. Wright; sire, Fourth Duke of Belmont 12; dam, Snow-flake 50.	
Bull, 2 years old and under 3—2 entries:	
First premium, E. A. Tefft, Elgin.....	25 00
"Martel No. 294;" white and black; calved April 25, 1877; bred by C. Konig, North Holland, thence imported by Geo. E. Brown, in 1877; property of E. A. Tefft, Elgin.	
Second premium, Paul Rothbarth, Chicago.....	15 00
Grüeno 4311, imported.	
Bull, 1 year old and under 2—7 entries:	
First premium, Paul Rothbarth, Chicago.....	20 00
"Fourth Prince of Brabant 245;" white and black; calved May 24, 1878; bred by Paul Rothbarth, Chicago, sire, Prince of Brabant 325; dam, Princess of Brabant 427.	
Second premium, Paul Rothbarth, Chicago.....	10 00
"Bless 433," imported.	

Bull under 1 year old and over 6 months—4 entries:	
First premium, E. A. Tefft, Elgin	15 00
Second premium, Dexter Severy, Leland.....	10 00
"Skip," calved Jan. 10, 1879; bred by Dexter Severy, Leland; sire, Second Consul 339, dam, Clasina 269.	
Bull Calf under 6 months old—1 entry:	
First premium, E. A. Tefft, Elgin.....	15 00
"Dalrymple."	
Cow 4 years old or over—8 entries:	
First premium, Dexter Severy, Leland	25 00
"Clasina 269," white and black, calved in 1871; imported from North Holland by T. E. Whiting, Concord, Mass.	
Second premium, Paul Rothbarth, Chicago.....	15 00
"Princess of Brabant 427," white and black, calved Jan. 5, 1874; bred by H. Groenfeldt, West Friesland; imported by Paul Rothbarth, Chicago, Oct. 6, 1876 on steamer Main.	
Cow 8 years old and under 4—4 entries:	
First premium, Paul Rothbarth, Chicago.....	25 00
"Grethe," No. 680; imported.	
Second premium, E. A. Tefft, Elgin	15 00
"Helder," 324; white and black; calved February, 1876; imported from North Holland by Geo. E. Brown; property E. A. Tefft; dam Texanna, 457.	
Heifer 2 years old and under 3—8 entries:	
First premium, E. A. Tefft, Elgin	25 00
"Mattie Spaanz, 389," black and white; calved March 12, 1877; imported, in dam Spaanz (373), from North Holland in 1876, by Geo. E. Brown.	
Second premium, Paul Rothbarth, Chicago.....	15 00
"Wrathe No. 686;" imported.	
Heifer, 1 year old and under 2—9 entries:	
First premium, W. H. H. Green, Maquon....	20 00
Second premium, Paul Rothbarth, Chicago.....	10 00
"Faunell, 684;" imported.	
Heifer, under 1 year old and over 6 months—4 entries:	
First premium, W. H. H. Green, Maquon.....	15 00
Second premium, Dexter Severy, Leland	10 00
"Graceful;" calved November 28, 1878; bred by Dexter Severy, Leland; sire, Second Consul, 339; dam, Bertha, 254.	
Heifer calf, under 6 months—1 entry:	
No premium awarded.	
<i>Awarding Committee—John M. Pearson, Godfrey, E. L. Lawrence, Champaign, Joseph Tefft, Elgin.</i>	

LOT 6—SWEEPSTAKES—HOLSTEINS.

Bull, of any age—7 entries:	
Premium, Dexter Severy, Leland.....	\$25 00
"Second Consul 330."	
Cow or Heifer, of any age—8 entries:	
Premium, Dexter Severy, Leland	25 00
"Zuyder Zee 9th"; black with white marks; calved March 4, 1870; bred by Winthrop W. Chenery, Belmont, Mass., sire, Van Trump (50); dam, Zuyder Zee (62); both imported from North Holland by Winthrop W. Chenery, 1861.	
Bull and five Cows or Heifers, 1 year old or over, owned by one individual or previously existing firm—5 entries:	
Premium, Paul Rothbarth, Chicago.....	40 00
"Grueno 431," "Princess of Brabant 427," "Hertha 326," "Wrathe 686," "Trine 681," "Grethe 680."	
<i>Awarding Committee—Joseph Tefft, Elgin; E. L. Lawrence, Champaign; John M. Pearson, Godfrey.</i>	

LOT 7—DEVONS—THOROUGHbred.

Bull, 3 years old or over—3 entries:	
First premium, L. F. Ross, Avon.....	\$25 00
"Shelto, 2d, 1338"; calved May 15, 1871; bred by Nicholas Saum, Kingston; sire, Shelto, 1337; 2d sire, Madison, 272; dam, Beauty, 2149, by Orion, 1204.	
Second premium, D. J. Whitmore, Casstown, Ohio	15 00
"Barfoot, 732"; calved April 23, 1873; bred by J. Buckingham, Devon Dale Stock Farm, Zanesville, Ohio; sire, Bar-rana, 423; 2d sire, General, 40; dam Helen 23th, 1012, by Imp. Omar Pasha, 1001.	

Bull, 2 years old and under 3—no entries.

Bull, 1 year old and under 2—2 entries:

First Premium, L. F. Ross, Avon.....	\$20 00
"2d Duke of Oak Creek"; calved July 1, 1878; bred by L. Rawson, Oak Creek, Wis.; sire, Sir John, 1065; dam, Vinnie Lee, 2103.	
Second premium, D. J. Whitmore, Casstown, Ohio.....	10 00
"Gen. Pope"; calved April 29, 1878; bred by Jas. Buckingham, Zanesville, Ohio; sire, Butler, 454; dam, Rosa, 2029.	

Bull, under 1 year and over 6 months—2 entries:

First premium, L. F. Ross, Avon.....	15 00
"Lady May's 2d Duke, 1257"; calved October 17, 1877; bred by L. F. Ross, Avon; sire, Shelto 2d, 1338; 2d sire, Shelto, 1337; dam, Lady May, 1088, by Madison, 272.	
Second Premium, L. F. Ross, Avon.....	10 00
"Duke of Avon 3d"; calved Dec. 18, 1878; bred by L. F. Ross, Avon; sire, May Boy, 1278; 2d sire, Locomotive, 589; dam, Ohio Belle, 2554, by Cas-sio, 459	

Bull Calf, under 6 months old—3 entries:

First premium, D. J. Whitmore, Casstown, O.....	15 00
"Gen. Ross"; calved May 23, 1879; bred by Jas. Buckingham, Zanesville, O.; sire, Barefoot, 732; dam, Rosa, 2029.	
Second premium, L. F. Ross, Avon.....	10 00
"Duke of Avon 4th"; calved March 2, 1879; bred by L. F. Ross, Avon; sire, Shelton 2d, 1338; 2d sire, Shelton, 1337; dam, Orphan Girl 1967, by Hamil-ton 538.	

Cow, 4 years old or over—6 entries:

First premium, L. F. Ross, Avon.....	25 00
"Mina Hilton, 1139"; calved February 27, 1872; bred by D. O. May, Rochelle; sire, Madison, 272; 2d sire, Frank Baker, 38; dam, Gipsy, 504; 2d dam, Katy, 582.	
Second premium, L. F. Ross, Avon.....	15 00
"Lady May, 1088"; calved February 21, 1869; bred by D. O. May, Rochelle; sire, Madison, 272; 2d sire, Frank Baker, 38; dam, Fancy 2d, 479, by Huron 2d, 250.	

Cow, 3 years old and under 4—2 entries:

First premium, L. F. Ross, Avon.....	25 00
"Carrie Bell, 2205"; calved February 12, 1876; bred by D. O. May, Rochelle; sire, John Randolph, 650; dam, Henrietta, 2383.	
Second premium, D. J. Whitmore, Casstown, O.....	15 00
"Maud, 2512"; calved June 12, 1876; bred by D. J. Whitmore, Casstown, O.; sire, Butler, 454; dam, Rose 3d, 2039.	

Heifer, 2 years old and under 3—2 entries:

First premium, D. J. Whitmore, Casstown, O.....	25 00
"Minnie"; calved April 23, 1877; bred by D. J. Whitmore, Casstown, O.; sire, Butler 454; dam, Kitty Clover 1070.	
Second premium, L. F. Ross, Avon.....	15 00
"Fairy 2237"; calved March, 1877; bred by L. Rawson, Oak Creek, Wis.; sire, Rochelle 1143; dam, Alice Taylor 1332.	

Heifer, 1 year old and under 2—3 entries:

First premium, D. J. Whitmore, Casstown, O.....	20 00
"Lila"; calved May 2, 1878; bred by D. J. Whitmore, Casstown, O.; sire, Butler 454; dam, Kitty Clover 1070.	
Second premium, L. F. Ross, Avon.....	10 00
"Cute 2d 2233½"; calved June 11, 1878; bred by L. Rawson, Oak Creek, Wis.; sire, Rochelle 1143; dam, Cute 1529.	

Heifer, under 1 year old and over 6 months—3 entries:

First premium, D. J. Whitmore, Casstown, Ohio.....	15 00
"Gertrude"; calved March 3, 1879; bred by D. J. Whitmore, Casstown, O.; sire, Barefoot 732; dam, Rose 3d 2039.	
Second premium, D. J. Whitmore, Casstown, O.....	10 00
"Lilith"; calved March 2, 1879; bred by D. J. Whitmore, Casstown, O.; sire, Barefoot 732; dam, Kitty Clover 1070.	

Heifer Calf, under 6 months old—3 entries:

First premium, L. F. Ross, Avon.....	15 00
"Zephyr 2679"; calved August 10, 1879; bred by L. F. Ross, Avon; sire, Shelto 2d, 1338; dam, Henrietta 2383.	
Second premium, D. J. Whitmore, Casstown, Ohio.....	10 00
"Irene"; calved July 4, 1879; bred by D. J. Whitmore, Casstown, Ohio; sire, Barefoot 732; dam, Queen Emma 2d.	

Awarding Committee—Geo. H. Stookey, Belleville; Wm. Stocking, Rochelle; J. H. Cheney Bloomington.

LOT 8—SWEEPSTAKES—DEVONS.

Bull, of any age—2 entries:	
Premium, L. F. Ross, Avon.....	\$25 00
"Shelto 2d, 1338."	
Cow or Heifer, of any age—6 entries:	
Premium, L. F. Ross, Avon.....	25 00
"Mina Hilton, 1139."	
Bull and 5 Cows or Heifers, 1 year old or over, owned by one individual or previously existing firm—2 entries:	
"Shelto, 1338;" "Lady May, 1086;" "Mina Hilton, 1139;" "Henrietta, 2383;"	
"Bertha, 1426;" "Fairy, 2287½."	
Awarding Committee—Wm. Stocking, Rochelle; Geo. H. Stookey, Belleville; J. H. Cheny, Bloomington.	

LOT 9—AYRSHIRES—THOROUGHbred.

Bull, 3 years old or over—9 entries:	
First premium, A. J. Wilson, Grafton Ohio.....	\$25 00
"Forester, 1766;" light red and white; calved Feb. 24, 1876; bred by James Laurie, Malvern, Ontario; sire Seafeld 2d, 709; dam Dairy Maid, 3407.	
Second premium, J. A. Patterson, Rock Falls.....	15 00
"Illinois N. A. A. R., 357;" calved Nov. 28, 1872; bred by D. C. and D. J. Jenne, Prophetstown; sire, Davie 289; dam, Carrie 607.	
Bull, 2 years old and under 3—3 entries:	
First premium, J. A. Patterson, Rock Falls.....	25 00
"Jock;" calved May 20, 1877; bred by J. A. Patterson, Rock Falls; sire, Illinois, 357; dam, Edo, 684.	
Second premium, J. A. Patterson, Rock Falls.....	15 00
"Diamond Joe;" calved June 2, 1877; bred by J. A. Patterson, Rock Falls; sire, Illinois, 357; dam, Julia, 824.	
Bull, 1 year old and under 2—6 entries:	
First premium, John Stewart, Blackberry Station.....	20 00
"Lincoln;" (Baggs Vol. 4) calved April 12, 1878; bred by J. Stewart, Blackberry Station; sire, Robert Burns; dam, Lady Jane, 2668.	
Second premium, Wm. Fairweather, McLane, Penn.....	10 00
"Laird O' Cockpen, 2135;" calved July 25, 1878; bred by A. J. Wilson, Grafton, O.; sire, Lorain, 681; dam, Annie, 832.	
Bull, under 1 year old and over 6 months—4 entries:	
First premium, J. A. Patterson, Rock Falls.....	15 00
"Utility;" calved Feb. 3, 1879; bred by J. A. Patterson, Rock Falls; sire, Davie, 289; dam, Carrie, 607.	
Second premium, A. J. Wilson, Grafton, O.....	10 00
"Barefoot, 2109;" calved January 18, 1879; bred by A. J. Wilson, Grafton, O.; sire, James Wilson, 1908; dam, Bright Eyes, 3360.	
Bull Calf, under 6 months old—6 entries:	
First premium, J. A. Patterson, Rock Falls.....	15 00
"Professor;" calved May 20, 1879; bred by J. A. Patterson, Rock Falls; sire, Illinois, 357; dam, Nannie, 702.	
Second premium, Wm. Fairweather, McLane, Penn.....	10 00
"Plato;" calved June 4, 1879; bred by Wm. Fairweather, McLane, Penn.; sire, Sitting Bull, 143; dam, Spring Beauty, 3786.	
Cow 4 years old or over—15 entries:	
First premium, A. J. Wilson, Grafton, O.....	25 00
"Nonsuch 3018;" calved August 18, 1880; bred by James Laurie Malvern, Ontario; sire Imp. Avondale Farmer, 922; dam Imp. Avondale, 3529.	
Second premium, John Stewart, Blackberry Station.....	15 00
"Dairy Maid;" calved April 15, 1875; bred by J. Stewart, Blackberry Station; sire Geo. 3d 1154; dam Lady Jane 2666	
Cow 3 years old and under 4—11 entries:	
First premium N. N. Jones, Normal.....	25 00
"Fanchon 711;" calved 1876, bred by Sturtevant Bros.....	
Second premium, A. J. Wilson, Grafton, O.....	15 00
"Dairy Maid of Lorain 4673;" calved May 2, 1876; bred by E. B. Carns, St. John, Mich; sire, Narbet 1358; dam, Lucy 2d 2766.	

Heifer 2 years old and under 3-9 entries:

First premium, Wm. Fairweather, McLane, Penn.....	\$25 00
"Mollie Pender 4351," calved March 23, 1877; bred by J. F. Converse, Woodville N. Y., sire W. Chief 1542 imported; dam, Lady Pender, 2688 imported.	
Second premium, John Stewart, Blackberry Station	15 00
Snowball;" calved May 10, 1877, bred by, John Stewart, Blackberry Station, sire, Robert Burns; dam, Beauty.	

Heifer 1 year old and under 2-13 entries:

First premium, A. J. Wilson, Grafton, O.	20
"Dairy Maid of Canada 4682;" calved March 26, 1878; bred by James Laurie, Malvern, Ontario; sire, Carl Luke 1999; dam, Dairy Maid 3407.	
Second premium, Wm. Fairweather, McLane, Pa.....	10 00
"Rosie Lorain 4418," calved Jan. 5, 1878; bred by A. J. Wilson, Grafton, O.; sire, Lorain 681, dam, Rosie 2d, 3767.	

Heifer under 1 year old and over 6 months-5 entries:

First premium, John Stewart, Blackberry Station	15 00
"Minnie," calved Oct. 5, 1879; bred by John Stewart, Blackberry Station; sire, Robert Burns, dam, Hatty.	
Second premium, W. C. Norton, agent, Aldenville, Penn....	10 00
"Ariadne," calved Feb. 9, 1879; bred by W. C. Norton, Aldenville, Penn.; sire, Godfrey 338, dam, Lady Cooper 850.	

Heifer Calf under 6 months old-6 entries:

First premium, John Stewart, Blackberry Station	15 00
"Nellie," calved May 10, 1879; bred by John Stewart, Blackberry Station; sire, Robert Burns, dam, Mattie.	
Second premium, A. J. Wilson, Grafton, O.....	10 00
"Mollie Cooper 4765," calved May 4, 1879; bred by A. J. Wilson, Grafton, O.; sire, Lorain 681, dam, Rosie 2d 3767.	

Awarding Committee.—Joseph Tefft, Elgin; E. L. Lawrence, Champaign; G. E. Morrow, Champaign.

LOT 10—SWEEPSTAKES—AYRSHIRES.

Bull of any age-10 entries:

Premium, A. J. Wilson, Grafton, O.....	\$25 00
"Forester 1708."	

Cow or Heifer of any age-14 entries:

Premium, A. J. Wilson, Grafton, O.....	25 00
"Nonesuch 3013."	

Bull and 5 cows or heifers, 1 year old or over, owned by one individual, or previously existing firm-7 entries:

Premium, A. J. Wilson, Grafton, Ohio.....	\$40 00
"Forester, 1708," "Nonesuch, 3013," Susan 3d, 1878," "Dairy Maid of Lorain, 4673," "Dairy Maid, 2303," "Dairy Maid of Canada, 4682."	

Awarding Committee.—John M. Pearson, Godfrey; Joseph Tefft, Elgin; E. L. Lawrence, Champaign.

LOT 11—JERSEYS.

Bull, 3 years old or over-9 entries:

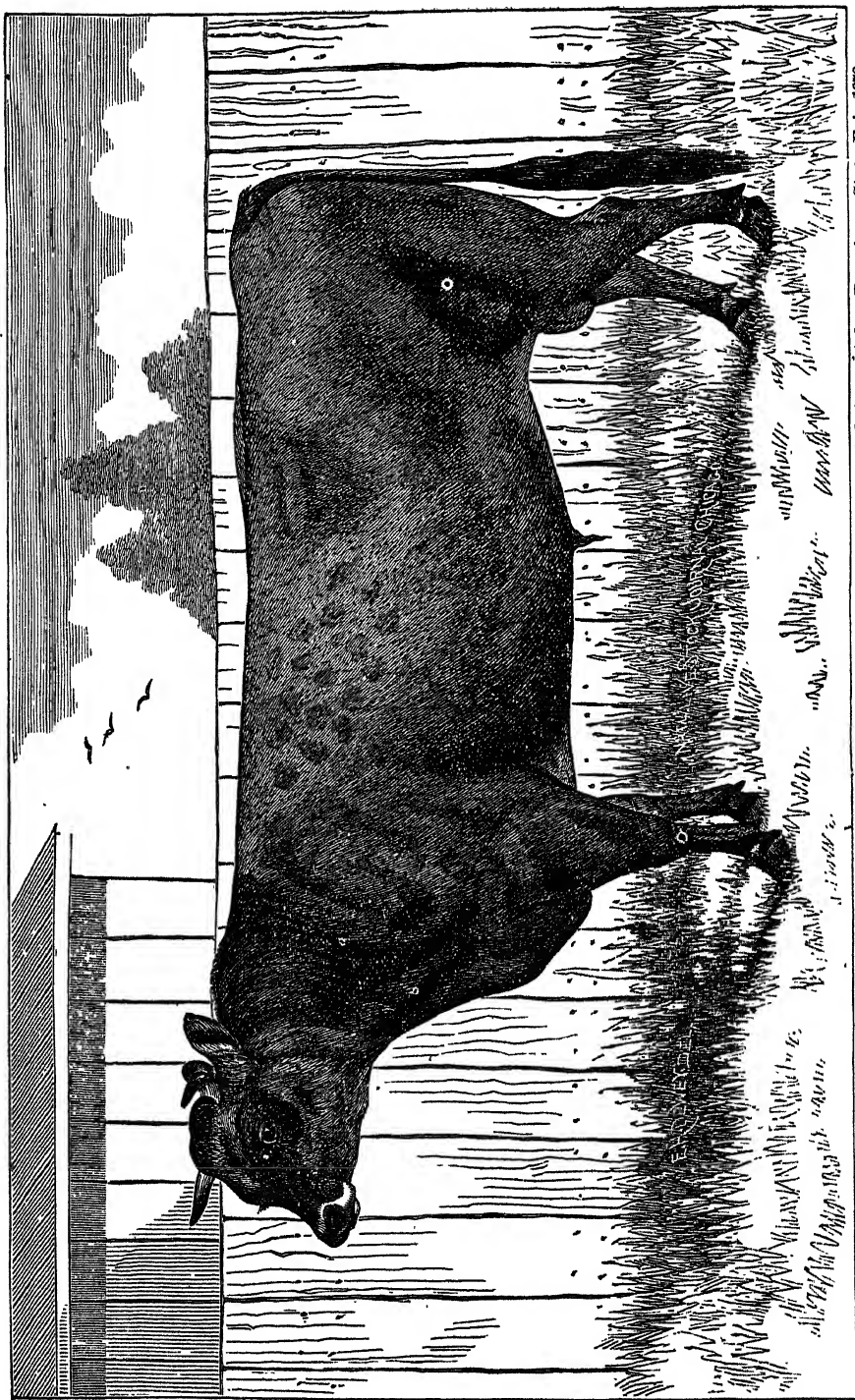
First premium, Samuel Stratton, Litchfield.....	\$25 00
"Royalist, 2906;" calved 1875; bred by P. J. Mourant, Isle of Jersey; sire, Duke; dam, Regina.	
Second premium, V. Barber, Decatur.....	15 00
"Cocco, 1673;" calved October 15, 1874; bred by E. M. Hoe, Morrisville, N. Y.; sire, Mercury, 432; dam, Ceres, 427.	

Bull, 2 years old and under 3-9 entries:

First premium, Churchman & Jackson, Indianapolis, Ind.....	25 00
"Le Brocq's Prize, 3350;" calved February, 1877; bred on Isle of Jersey; sire, on Isle of Jersey; dam, Matin, 1829, on Isle of Jersey.	
Second premium, N. N. Jones, Normal	15 00
"Little Joker 2d, 1536;" calved 1877; bred by N. N. Jones, Normal; sire, Asgard, 1879; dam, Rosa, 506.	

Bull, 1 year old and under 2-3 entries.

First Premium, Churchman & Jackson, Indianapolis, Ind.	20 00
"Car Boy, 3351;" calved August 25, 1878; bred on Isle of Jersey; sire, on Isle of Jersey; Queen Bess of St. B. 7462.	
Second premium, Samuel Stratton, Litchfield.....	10 00
"Lenape Chief 2d," calved June 4, 1878; bred by Samuel Stratton, Litchfield; sire, Lenape Chief 1052, dam, Menanda 6460.	



JERSEY BULL "ROYALIST 2306."—Exhibited by SAMUEL STRATTON, Litchfield, Illinois. Awarded Sweepstakes Premium, State Fair 1879.

Bull under 1 year old and over 6 months—6 entries:	
First premium, V. Barber, Decatur.....	15 00
"Baron Bronx," calved March 28, 1879; bred by R. C. Patterson, Patterson, N. J.; sire, Souloque 1579, dam, Adria 4284.	
Second premium, Samuel Stratton, Litchfield.....	10 00
"Royalist 3d," calved Dec. 13, 1878; bred by Samuel Stratton, Litchfield; sire, Royalist 2906, dam, Nelly 5456.	
Bull Calf under 6 months old—10 entries:	
First premium, O. G. Dooley, Downs.....	15 00
"Cuyler," calved April 15, 1879; bred by O. G. Dooley, Downs; sire, Cecco 1673, dam, Rubia 5371.	
Second premium, V. Barber, Decatur.....	10 00
"Franto," calved April 1, 1879; bred by V. Barber, Decatur; sire, Cecco 1673, dam, Hayti 6917.	
Cow, 4 years old or over—25 entries:	
First premium, Samuel Stratton, Litchfield.....	25 00
"Lady Mell 2d 1795," calved 1870; bred by S. W. Robins, Wethersfield, Conn.; sire, Albert 44, dam, Lady Mell 423.	
Second premium, Churchman & Jackson, Indianapolis, Indiana.....	15 00
"Medrena 3939," calved April 23, 1875; bred at Ogden Farm; sire, Medway 717, dam, Remina 1431.	
Cow, 3 years old and under 4—13 entries:	
First premium, Samuel Stratton, Litchfield.....	25 00
"Devonia," 6462; calved 1875; bred by W. Alexander, Isle of Jersey; sire, Gay Prince; dam, Mignonne.	
Second premium, Churchman & Jackson, Indianapolis, Indiana.....	15 00
"Evri 5232," calved Oct. 28, 1876; bred at Beech Grove Farm; sire, Marius 780; dam, Eve 456.	
Heifer, 2 years old and under 3—17 entries:	
First premium, D. H. and S. S. Tripp, Peoria.....	25 00
"Ella Lawrence 8223," calved Feb. 12, 1877; bred by C. F. Maurice, Sing Sing, N. Y. sire, Lord Lawrence 1414; dam, Elfindune 5335.	
Second premium, Churchman & Jackson, Indianapolis, Indiana.....	15 00
"Violette 7471," calved March, 1877; bred by N. Arthur, Isle of Jersey; sire, Apollo 108 J. H. B. Isle of Jersey; dam, Young Rose.	
Heifer, 1 year old and under 2—19 entries:	
First premium, Samuel Stratton, Litchfield.....	20 00
"Usella 3," calved July 22, 1877; bred by Samuel Stratton, Litchfield; sire, Royalist 2906; dam, Usella 6469.	
Second premium, T. C. Murphy, Green Valley.....	10 00
"May Day," calved May 2, 1873; bred by T. C. Murphy, Green Valley; sire, Rodney 1941; dam, Lady May 4950.	
Heifer Calf, under 1 year old and over 6 months—8 entries:	
First premium, T. C. Murphy, Green Valley.....	15 00
"Fair 4th," calved Oct. 20, 1878; bred by T. C. Murphy, Green Valley; sire, Rodney 1941; dam, Fair 4914.	
Second premium, J. Weber Adams, Cedarville.....	10 00
"Rox 3563," calved Jan. 19, 1879; bred by J. Weber Adams, Cedarville; sire, Parrott 1699; dam, Laura Copeland.	
Heifer Calf under 6 months old—12 entries:	
First premium, Churchman & Jackson, Indianapolis, Ind.....	15 00
"Retonia 8884," calved April 7, 1879; bred at Beach Grove Farm; sire, One Ton 2000; dam, Renina 1431.	
Second premium, V. Barber, Decatur.....	10 00
"Anna M," calved August 22, 1879; bred by, V. Barber, Decatur; sire, Cecco 1673; dam, Lurna 3634.	
Awarding Committee—Jno. M. Pearson, Godfrey; E. L. Lawrence, Champaign; Joseph Tefft, Elgin.	

LOT 12—SWEEPSTAKES—JERSEYS.

Bull of any age—15 entries:	
Premium, Samuel Stratton, Litchfield.....	\$25 00
"Royalist 2906."	
Cow or Heifer of any age—44 entries:	
Premium, Samuel Stratton, Litchfield.....	25 00
"Nelly 5456," calved 1872; bred by A. Alexander, Isle of Jersey; sire, Lemon; dam, Little Brown.	
Bull and 5 Cows or Heifers, 1 year old or over, owned by one individual, or previously existing firm—7 entries:	
Premium, Samuel Stratton, Litchfield.....	40 00
"Royalist 2906," "Nelly 5456," "Devonia 6462," "Menanda 6460," "Elmina 6461," "LaBronte 6542."	
Awarding Committee—Joseph Tefft, Elgin; E. L. Lawrence, Champaign; Jno. M. Pearson, Godfrey.	

LOT 13.—HERDS—MILK BREEDS—JERSEY—HOLSTEIN AND AYRSHIRE.

Bull and 5 cows or heifers, one year old or over, owned by one individual or previously existing firm—18 entries:

First premium, Samuel Stratton, Litchfield	\$80 00
"Royalist, 2906," "Nelly, 5456," "Devonia, 6462," "Menanda, 6460," "Elmina, 6164," "La Bronte, 6542,"	
Second premium, A. J. Wilson, Grafton, O.....	40 00
"Forester, 1768," "Nonesuch, 3018," "Dairy Maid, 2203," "Susan 3d, 1873"—"Dairy Maid of Lorain, 4673"—"Dairy Maid of Canada, 4682."	

Awarding Committee. John M. Pearson, Godfrey; E. L. Lawrence, Champaign; R. Milner.

LOT 14.—HERDS FROM ONE BULL—MILK BREEDS—JERSEY, HOLSTEIN AND AYRSHIRE.

Five cattle, male or female, of any age, without regard to ownership, the get of one bull, the sire to be shown with the herd and considered in making the award—9 entries:

First premium, V. Barber, Decatur.....	\$80 00
"Cecco, 1873," "Zuleika," "Essie," "Freeport Fairy," "Pet of Springfield," "Mydia,"	
Second premium, Dexter Severy, Leland.....	40 00
"Second Consul 239," "Graceful," "Phyllis," "Skip," "Clifton," "Climax," 204."	

Awarding Committee.—John M. Pearson, Godfrey; E. L. Lawrence, Champaign, Joseph Tefft, Elgin.

LOT 15—BREEDER'S RING—MILK BREEDS—JERSEY, HOLSTEIN AND AYRSHIRE.

Five cattle, of one breed, male or female, over one year old, bred and owned by the exhibitor—7 entries:

First premium, Mrs. E. M. Loose, Springfield	\$80 00
"Maudine 2d 5645," "Maudine 4th 5648," "Morning 4th 5649," "Springfield Belle 5941," "Maudine 6th 5940,"	
Second premium, Churchman & Jackson, Indianapolis, Ind.....	40 00
"Evri 5232," "Mamari 5238," "Welma 5942," "Petrus 5563," "Calypsis 5943."	

Awarding Committee.—Joseph Tefft, Elgin; E. L. Lawrence, Champaign; John M. Pearson, Godfrey.

LOT 16—HERDS—BEEF BREEDS—SHORT HORN, HERFORD AND DEVON.

Bull and 5 Cows or Heifers 1 year old, owned by one individual or previously existing firm—7 entries:

First premium, J. H. Potts & Son, Jacksonville	\$80 00
"Frederick William 23195," "Josie 2d," "Josie 3d," "Priscilla 8th," "Lady Athelstane," "Fanny Airdrie,"	
Second premium, S. E. Prather, Sherman	40 00
"Prince Leopold," "5th Queen of Riverdale," "6th Queen of Riverdale," "Goodness of Riverdale," "2d Miss Morton of Riverdale," "Lady Booth of Riverdale."	

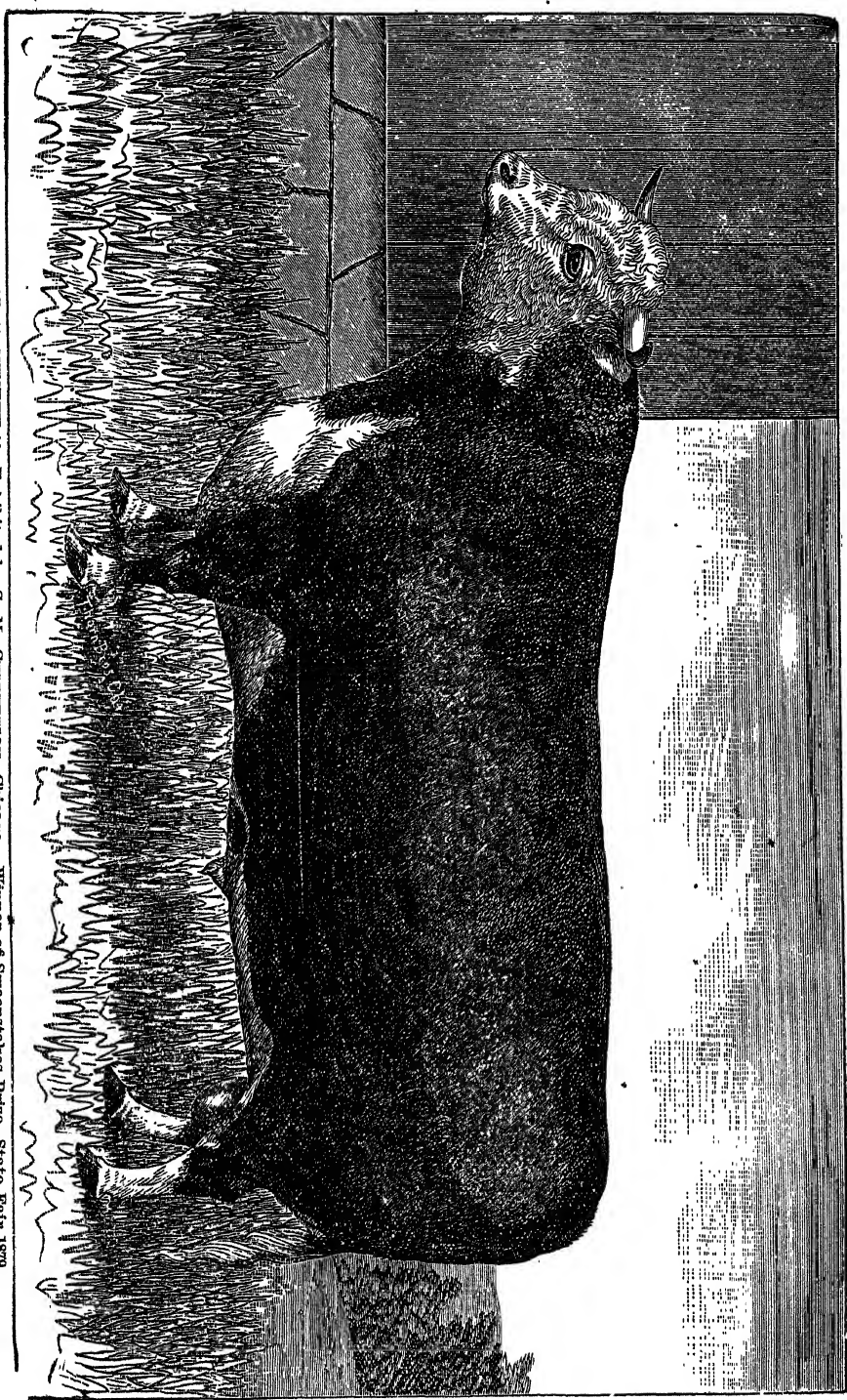
Awarding Committee.—J. H. Cheney, Bloomington; Wm. Stocking, Rochelle; Geo. H. Stookey, Belleville.

LOT 17.—HERDS FROM ONE BULL—BEEF BREEDS—SHORT HORN, HERFORD AND DEVON.

Five Cattle, male or female of any age, without regard to ownership, the get of one bull—the sire to be shown with the herd and considered in making the award—4 entries:

First premium, J. H. Potts & Son, Jacksonville.....	\$80 00
"Duke of Richmond, 21525," "Major Richmond, 30253," "Priscilla 8th," "Gem of Oakland," "Fannie Airdrie," "Maria Woods 8th," "Master Richmond, 33239,"	
Second premium, T. L. Miller, Beecher.....	40 00
"Success 5081," "Prairie Flower," "Highland Queen," "Charity," "Beatrice," "Maid of Orleans."	

Awarding Committee.—J. H. Cheney, Bloomington; Geo. H. Stookey, Belleville, William Stocking, Rochelle.



HERFORD BULL, "ANXIETY."—Exhibited by C. M. CURRIERSON, Chicago. Winner of Sweepstakes Prize, State Fair 1879.

LOT 18—BREEDERS' RING—BEEF BREEDS—SHORT HORN, HEREFORD, DEVON.

5 Cattle of one breed, male or female, over one year old, bred and owned by the exhibitor—5 entries:

First premium, J. H. Potts & Son, Jacksonville..... \$50 00
 "Major Richmond," "Josie 2d," "Josie 3d," "Priscilla 8th," "Lady Athelstane."

Second premium, T. L. Miller, Beecher.... 40 00
 "Victoria," "Prairie Flower," "Highland Queen," "Charity," "Maid of Orleans."

Awarding Committee—J. H. Cheney, Bloomington; Wm. Stocking, Rochelle; Geo. H. Stookey, Belleville.

LOT 19—MILK COWS.

Milk Cow:

First premium, Tisdale & Whitcomb, Springfield..... \$50 00
 Grade Short Horn.

Second premium, A. J. Wilson, Grafton, O..... 25 00
 "Nonesuch, 3018"—Ayrshire.

Awarding Committee—John M. Pearson, Godfrey; Joseph Teft, Elgin; E. L. Lawrence, Champaign; William Stocking, Rochelle; Geo. H. Stookey, Belleville.

CLASS B—HORSES.

JOHN LANDRIGAN, *Superintendent*.

LOT 20—THOROUGHBRED.

STALLIONS.

Stallion, 4 years old or over—10 entries:

First premium, A. B. Watts, Farmingdale..... \$25 00
 Second premium, W. Buckles, Champaign..... 15 00

Stallion, 3 years old and under 4—2 entries:

First premium, Phil. Warren, Springfield..... 20 00
 Second premium, R. & J. Rowett, Carlinville..... 10 00

Stallion, 2 years old and under 3—3 entries:

First premium, R. & J. Rowett, Carlinville..... 20 00
 Second premium, J. H. Evans, Carrollton..... 10 00

Stallion, 1 year old and under 2—11 entries:

First premium, J. A. McClelland, Springfield..... 15 00
 Second premium, R. & J. Rowett, Carlinville..... 10 00

Stallion Colt, under 1 year old—3 entries:

First premium, A. G. Carle, Urbana..... 15 00
 Second premium, W. M. Ashlock, Carrollton..... 10 00

MARES.

Mare, 4 years old or over—10 entries:

First premium, W. Buckles, Champaign..... \$25 00
 Second premium, R. & J. Rowett, Carlinville..... 15 00

Mare, 3 years old and under 4—2 entries:

First premium, J. H. Evans, Carrollton..... 20 00
 Second premium, R. & J. Rowett, Carlinville..... 10 00

Mare, 2 years old and under 3—3 entries:

First premium, R. & J. Rowett, Carlinville..... 20 00
 Second premium, W. M. Ashlock, Carrollton..... 10 00

Mare 1 year old and under 2—6 entries:

First premium, W. Buckles, Champaign..... 15 00
 Second premium, Phil Warren, Springfield..... 10 00

Mare Colt under 1 year old—4 entries:

First premium, J. A. McClelland, Springfield..... 15 00
 Second premium, A. B. Watts, Farmingdale..... 10 00

Brood Mare, to be shown with two of her colts under 2 years of age—4 entries:
 Premium, J. A. McClelland..... 30 00

Stallion showing best 5 sucking foals of either sex—no entry.

Awarding Committee—J. W. Singleton, Quincy; A. Spring, Olney; J. C. Bruner, Ottawa.

LOT 21—SWEEPSTAKES—THOROUGHBREDS.

Thoroughbred Stallion of any age—to bridle—17 entries:
 Premium, W. Buckles, Champaign..... \$50 00

Thoroughbred Mare of any age—to bridle—15 entries:
 Premium, W. Buckles, Champaign..... 50 00

Awarding Committee—J. C. McConnell, Dix; Wm. Folsetter, Evansville, Ind.; N. H. Paaren, Chicago.

LOT 22—ROADSTERS—STALLIONS.

Stallion 4 years old or over—to harness—19 entries:
 First premium, J. M. Conklin, Jerseyville..... \$25 00
 Second premium, James McKean, Bradford..... 15 00

Stallion 3 years old and under 4—to harness—3 entries:
 First premium, John Sims, Virden..... 20 00
 Second premium, P. H. Dorsey, Bunker Hill..... 10 00

Stallion 2 years old and under 3—9 entries:
 First premium, G. M. Chedester, Virden..... 20 00
 Second premium, James McKean, Bradford..... 10 00

Stallion 1 year old and under 2—16 entries:
 First premium, J. G. Willard, Harristown..... 15 00
 Second premium, A. Armstrong, Beason..... 10 00

Stallion Colt under 1 year old—17 entries:
 First premium, A. Armstrong, Beason..... 15 00
 Second premium, A. Armstrong, Beason..... 10 00

MARES.

Mare 4 years old or over—to harness—10 entries:
 First premium, James McKean, Bradford..... 25 00
 Second premium, James McKean, Bradford..... 15 00

Mare 3 years old and under 4—to harness—8 entries:
 First premium, P. H. Dorsey, Bunker Hill..... 20 00
 Second premium, James McKean, Bradford..... 10 00

Mare 2 years old and under 3—10 entries:
 First premium, S. H. Swain, Maroa..... 20 00
 Second premium, J. A. Richmond & Co., Mackinaw..... 10 00

Mare 1 year old and under 2—13 entries:
 First premium, A. Armstrong, Beason..... 15 00
 Second premium, W. Buckles, Champaign..... 10 00

Mare Colt under 1 year old—11 entries:
 First premium, J. G. Willard, Harristown..... 15 00
 Second premium, A. J. Hageman, Lincoln..... 10 00

Brood Mare, to be shown with two of her colts under 2 years of age—10 entries:
 Premium, A. G. Carle, Urbana..... 30 00

Stallion, showing best 5 sucking foals of either sex—1 entry:
 Premium, A. Armstrong, Beason..... 50 00

Awarding Committee—A. Spring, Olney; John Virgin, Fairbury; George Davis, Fairfield.

LOT 23—SWEEPSTAKES—ROADSTERS.

Roadster Stallion of any age—to harness—23 entries:
 Premium, J. N. Beaty, Jerseyville..... \$100 00

Roadster Mare of any age—to harness—21 entries:
 Premium, James McKean, Bradford..... 50 00

Awarding Committee—A. Spring, Olney; John Virgin, Fairbury; George Davis, Fairfield.

LOT 24—HORSES FOR ALL WORK.

STALLIONS.

Stallion 4 years old or over—30 entries:	
First premium, John Lynch, Old Berlin.....	\$25 00
Second premium, D. Fisher, Bloomington.....	15 00
Stallion 3 years old and under 4—9 entries:	
First premium, James Crowley, Cotton Hill.....	20 00
Second premium, Hunter & Wagoner, Pana.....	10 00
Stallion 2 years old and under 3—16 entries:	
First premium, James H. Groves, Williamsville.....	20 00
Second premium, Henry R. Stephenson, Barclay.....	10 00
Stallion 1 year old and under 2—20 entries:	
First premium, A. G. Carle, Urbana.....	15 00
Second premium, J. A. Short, Greenfield.....	10 00
Stallion Colt under 1 year old—24 entries:	
First premium, D. W. Lanterman, Waynesville.....	15 00
Second premium, A. Armstrong, Beason.....	10 00

MARES.

Mare 4 years old or over—36 entries:	
First premium, A. Southwick, Cotton Hill.....	25 00
Second premium, W. Buckles, Champaign.....	15 00
Mare 3 years old and under 4—10 entries:	
First Premium, Edwin Hodgson, El Paso.....	20 00
Second premium, R. S. Rolfsen, Hayworth.....	10 00
Mare 2 years old and under 3—8 entries:	
First premium, S. H. Swain, Maroa.....	20 00
Second premium, W. H. Rutledge, Clayton.....	10 00
Mare 1 year old and under 2—15 entries:	
First premium, A. Armstrong, Beason.....	15 00
Second premium, A. G. Carle, Urbana.....	10 00
Mare colt under one year old—13 entries:	
First premium, J. A. Short, Greenfield.....	15 00
Second premium, J. G. Willard, Harristown.....	10 00
Brood Mare to be shown with 2 of her colts, under 2 years of age—12 entries:	
Premium, A. G. Carle, Urbana.....	30 00
Stallion showing best 5 sucking foals of either sex—1 entry:	
Premium A. Armstrong, Beason.....	50 00

Awarding Committee—J. C. McConnell, Dix; Wm. Folsetter, Evansville, Ind.; G. W. Davis, Fairfield.

LOT 25—SWEEPSTAKES—HORSES FOR ALL WORK.

Stallion of any age—52 entries:	
Premium, John Lynch, Old Berlin.....	\$50 00
Mare of any age—44 entries:	
Premium, Edwin Hodgson, El Paso.....	50 00
<i>Awarding Committee</i> —J. C. McConnell, Dix; Wm. Folsetter, Evansville, Ind.; G. W. Davis, Fairfield	

LOT 26—DRAFT HORSES—IMPORTED OR FULL BLOOD.

STALLIONS.

Stallion 4 years old or over—14 entries:	
First premium, E. Dillon & Co., Bloomington.....	\$25 00
Second premium, Canada West Stock Association, Brantford, Ca.....	15 00
Stallion 3 years old and under 4—2 entries:	
First premium, Moffatt Bros., Paw Paw.....	20 00
Second premium, D. Grant & Co, Petersburg.....	10 00
Stallion 2 years old and under 3—4 entries:	
First premium, Moffatt Bros., Paw Paw.....	20 00
Second premium, D. Grant & Co., Petersburg.....	10 00

Stallion 1 year old and under 2-2 entries:		
First premium, E. Dillon & Co., Bloomington.....	15	00
Second premium, Geo. Pickrell, Wheatfield.....	10	00
Stallion Colt under 1 year old-3 entries:		
First premium, Moffatt Bros., Paw Paw.....	15	00
Second premium, Chas. Miller, Tonica.....	10	00

MARES.

Mare 4 years old or over-9 entries:		
First premium, Canada West Stock Ass'n., Brantford, Ca	25	00
Second premium, Moffatt Bros., Paw Paw.....	15	00
Mare 2 years old and under 4-3 entries:		
First premium, E. Dillon & Co., Bloomington	20	00
Second premium, Moffatt Bros., Paw Paw.....	10	00
Mare 2 years old and under 3-1 entry:		
First premium, Moffatt Bros., Paw Paw	20	00
Mare 1 year old and under 2-2 entries:		
First premium, Moffatt Bros., Paw Paw.....	15	00
Mare Colt, under 1 year old-2 entries:		
First premium, Moffatt Bros., Paw Paw	15	00
Second premium, A. A. & E. Pickrell, Mechanicsburg	10	00
Brood Mare to be shown with 2 of her colts under 2 years of age-1 entry:		
Premium, A. & S. Pickrell, Mechanicsburg.....	30	00
Stallion showing best 5 sucking foals of either sex-4 entries:		
Premium, Moffatt Bros., Paw Paw.....	50	00
<i>Awarding Committee</i> -Wm. Folsetter, Evansville, Ind.; J. C. McConnell, Dix, W. H. Russell, Lost Creek.		

LOT 27-SWEEPSTAKES- DRAFT-IMPORTED OR FULL BLOOD.

Draft Stallion of any age-to bridle-23 entries:		
Premium, "Nogent," E. Dillon & Co., Bloomington.....	\$50	00
Draft Mare of any age-to bridle-13 entries:		
Premium, Moffatt Bros., Paw Paw.....	50	00
<i>Awarding Committee</i> -A. Spring, Olney; G. W. Davis, Fairfield; John Virgin, Fairbury.		

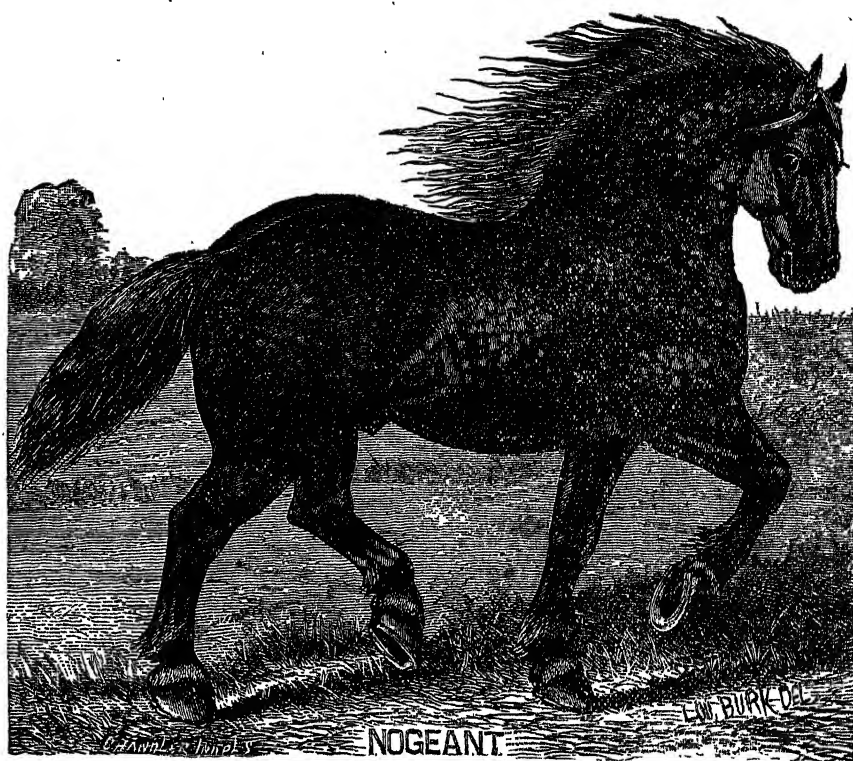
LOT 28-DRAFT HORSES-OTHER THAN IMPORTED AND FULL BLOOD.

STALLIONS.

Stallion 4 years old or over-10 entries:		
First premium, J. W. Cline, Cantrall.....	\$25	00
Second premium, H. Messenger, Lockport.....	15	00
Stallion 3 years old and under 4-10 entries:		
First premium, Moffatt Bros., Paw Paw.....	20	00
Second premium, H. Messenger, Lockport.....	10	00
Stallion 2 years old and under 3-9 entries:		
First premium, E. Dillon & Co., Bloomington.....	20	00
Second premium, Edwin Hodgson, El Paso.....	10	00
Stallion 1 year old and under 2-5 entries:		
First premium, J. W. Bredentel, Lenox	15	00
Second premium, Geo. Pickrell, Wheatfield	10	00
Stallion colt under 1 year old-14 entries:		
First premium, Moffatt Bros., Paw Paw	15	00
Second premium H. Messenger, Lockport.....	10	00

MARES.

Mare 4 years old or over-19 entries:		
First premium, C. G. Rankins, Monmouth.....	25	00
Second premium, E. Dillon & Co., Bloomington.	15	00
Mare 3 years old and under 4-6 entries:		
First premium, Edwin Hodgson, El Paso	20	00
Second premium, E. Dillon & Co., Bloomington.....	10	00



DRAFT STALLION "NOGEANT."

Exhibited by E. DILLON & Co., Bloomington. Winner Sweepstakes Prize, State Fair, 1873.

Mare 2 years old and under 3-12 entries:	
First premium, Edwin Hodgson, El Paso.....	20 00
Second premium, E. Dillon & Co., Bloomington	10 00
Mare 1 year old and under 2-10 entries:	
First premium, J. W. Cline, Cantrall.....	15 00
Second premium, Edwin Hodgson, El Paso	10 00
Mare Colt under 1 year old-9 entries:	
First premium, E. Dillon & Co., Bloomington.....	15 00
Second premium, Thos. Miller, Millerville	10 00
Brood Mare to be shown with 2 of her Colts under 2 years of age-6 entries:	
Premium, William R. Moffatt, Paw Paw.....	30 00
Stallion showing best 5 sucking foals of either sex-1 entry:	
Premium, Thos. Miller, Millerville.....	50 00
<i>Awarding Committee</i> -Wm. Folsetter, Evansville, Ind.; J. C. McConnell, Dix; W. H. Russell, Lost Creek.	

LOT 29-SWEEPSTAKES-DRAFT.

Other than Imported and Full Blood.

Draft Stallion of any age, to bridle-24 entries:	
Premium, Wm. R. Moffatt, Paw Paw.....	\$50 00
Draft Mare of any age-39 entries:	
Premium, J. W. Cline, Cantrall	50 00
<i>Awarding Committee</i> -A. Spring, Olney; J. C. McConnell, Dix; G. W. Davis, Fairfield.	

LOT 30-DRAFT TEAM.

Team Draft Horses, to consist of pair of Mares, or pair of Geldings, to be shown to Farm Wagon-7 entries:	
First premium, Canada West Stock Association, Brantford, Ca	40 00
Second premium, E. Dillon & Co., Bloomington.....	20 00
<i>Awarding Committee</i> -Wm. Folsetter, Evansville, Ind.; J. C. McConnell, Dix; G. W. Davis, Fairfield.	

LOT 31-HORSES FOR AGRICULTURAL PURPOSES.

STALLIONS.

Stallion 4 years old or over-32 entries:	
First premium, Edgar & Chowning, Lincoln.....	\$25 00
Second premium, E. Dillon & Co., Bloomington.....	15 00
Stallion 3 years old and under 4-13 entries:	
First premium, James Crowley, Cotton Hill.....	20 00
Second premium, Charles Miller, Tonica.....	10 00
Stallion 2 years and under 3-19 entries:	
First premium, J. W. Bredenthal, Lenox.....	20 00
Second premium, Edwin Hodgson, El Paso.....	10 00
Stallion Colt 1 year old and under 2-18 entries:	
First premium, Charles Miller, Tonica.....	15 00
Second premium, E. Dillon & Co., Bloomington	10 00
Stallion Colt under 1 year old-27 entries:	
First premium, Phil Morgan, Taylorville.....	15 00
Second premium, Edwin Hodgson, El Paso.....	10 00

MARES.

Mare 4 years old or over-24 entries:	
First premium, B. F. Waters, Springfield.....	25 00
Second premium, Edwin Hodgson, El Paso.....	15 00
Mare 3 years old and under 4-12 entries:	
First premium, E. Dillon & Co., Bloomington.....	20 00
Second premium, Edwin Hodgson, El Paso.....	10 00
Mare 2 years old and under 3-17 entries:	
First premium, J. B. Johnson, Rochester.....	20 00
Second premium, E. Dillon & Co., Bloomington.....	10 00

Mare 1 year old and under 2—18 entries:	
First premium, J. W. Cline, Cantrall.....	15 00
Second premium, W. R. Moffatt Paw Paw.....	10 00
Mare Colt under 1 year old—11 entries:	
First premium, E. Dillon & Co., Bloomington.....	15 00
Second premium, Geo. Pickrell, Wheatfield.....	10 00
Brood Mare, to be shown with 2 of her colts, under 2 years of age—16 entries:	
Premium, Moffatt Bros., Paw Paw.....	30 00
Stallion showing best 5 sucking foals of either sex—2 entries:	
Premium, Thos. Miller, Millerville.....	50 00
<i>Awarding Committee</i> —A. Spring, Olney; R. P. Hanna, Fairfield; W. H. Russell, Lost Creek.	

LOT 32—SWEEPSTAKES—HORSES FOR AGRICULTURAL PURPOSES.

Stallion of any age—70 entries:	
Premium, J. W. Cline, Cantrall.....	\$50 00
Mare of any age—63 entries:	
Premium, B. F. Waters, Springfield.....	50 00
<i>Awarding Committee</i> —J. C. McConnell, Dix; A. Spring, Olney; G. W. Davis, Fairfield.	

LOT 33—SADDLE HORSES.

Saddle Stallion, 4 years old or over—4 entries:	
First premium, G. W. Chatterton, Jr., Springfield.....	\$20 00
Second premium, Lewis Rosenthal, Lincoln.....	10 00
Saddle Stallion under 4 years old—No entries:	

MARES.

Saddle Mare 4 years old or over—6 entries:	
First premium, C. S. Jones, Williamsville.....	20 00
Second premium, Wm. Evans, Lincoln.....	10 00
Saddle Mare under 4 years old—5 entries:	
First premium, John Sims, Virden.....	20 00
Second premium, R. Lancaster, Virginia.....	10 00

GELDINGS.

Saddle Gelding 4 years old or over—3 entries:	
First premium, Dr. Crouch, Farmingdale.....	20 00
Second premium, J. M. Conklin, Jerseyville.....	10 00
Saddle Gelding under 4 years old—2 entries:	
First premium, W. E. Perkins, Curran.....	20 00
Second premium, John Sims, Virden.....	10 00
<i>Awarding Committee</i> —J. C. McConnell, Dix; Wm. Folsetter, Evansville, Ind.; A. Spring, Olney.	

LOT 34—CARRIAGE HORSES.

Carriage Team, shown to carriage or buggy—13 entries:	
First premium, W. H. Holly, Springfield.....	\$40 00
Second premium, J. W. Singleton, Quincy.....	20 00
Family Mare or Gelding, to be driven to buggy—23 entries:	
First premium, W. Buckles, Champaign.....	20 00
Second premium, J. M. Conklin, Jerseyville.....	10 00

LOT 35—GENTLEMEN'S DRIVING HORSES.

Pair Mares to pole—8 entries:	
First premium, Jas. McKean, Bradford.....	\$40 00
Second premium, O. B. Kemmons, Liberty.....	20 00
Pair Geldings to pole—9 entries:	
First premium, E. Saltzenstein, Springfield.....	40 00
Second premium, J. M. Conklin, Jerseyville.....	20 00

Single Stallion to harness—13 entries:	
First premium, J. N. Beaty, Jerseyville.....	40 00
Second premium, G. S. Hanna, Bloomington	20 00
Single Mare to harness—16 entries:	
First premium, Jas. McKean, Bradford.....	30 00
Second premium, J. M. Conklin, Jerseyville	15 00
Single Gelding to harness—12 entries:	
First premium, J. M. Conklin, Jerseyville....	30 00
Second premium, E. Saltzenstein, Springfield	15 00
<i>Awarding Committee</i> —W. H. Russell, Lost Creek; J. C. McConnell, Dix; G. W. Davis, Fairfield.	

LOT 36—JACKS, JENNETS AND MULES.

JACKS.

Jack 4 years old or over—6 entries:	
First premium, J. B. Retter, Jacksonville	\$25 00
Second premium, Edgar & Chowning, Lincoln.....	15 00
Jack 3 years old and under 4—No entries:	
Jack 2 years old and under 3—No entries:	
Jack 1 year old and under 2—3 entries:	
First premium, W. Leverton, Chatham	15 00
Second premium, John Matthews, Darlington, Wis.	10 00
Jack Sucking Colt—2 entries:	
First premium, H. R. Stevenson, Barclay	10 00

JENNETS.

Jennet 3 years old or over—4 entries:	
First premium, H. R. Stevenson, Barclay.....	20 00
Second premium, John Sims, Virden.....	15 00
Jennet 2 years old and under 3—1 entry:	
First premium, John Matthews, Darlington, Wis.....	15 00
Jennet 1 year old and under 2—No entries.	
Jennet Sucking Colt—1 entry:	
First premium, John Sims, Virden.....	10 00

MULES.

Mule 3 years old or over—9 entries:	
First premium, W. Walker, Taylorville.....	15 00
Second premium, W. Walker, Taylorville.....	10 00
2 year old Mule—6 entries:	
First premium, W. Leverton, Chatham.....	15 00
Second premium, D. W. Shutt, Virden.....	10 00
1 year old Mule—4 entries:	
First premium, Geo. R. Jarrett, New Berlin.....	15 00
Second premium, Geo. Hickman, Lincoln.....	10 00
Sucking Mule—10 entries:	
First premium, W. Leverton, Chatham.....	10 00
Second premium, Geo. Hickman, Lincoln	5 00

Awarding Committee—J. C. McConnell, Dix; William Folsetter, Evansville, Ind.; G. W. Davis, Fairfield.

LOT 37—SWEEPSTAKES—JACKS, JENNETS AND MULES.

Jack of any age, shown with not less than 3 mules of his own get—4 entries:	
Premium, Geo. R. Jarrett, New Berlin.....	\$50 00
Jennet of any age, to be shown with 2 of her colts—2 entries:	
Premium, John Sims, Virden.....	25 00
Team of Mules, 3 years old or over, to be shown to farm wagon—7 entries:	
First premium, W. M. Walker, Taylorville	25 00
Second premium, W. H. Crum, Liter.....	15 00

Awarding Committee—J. C. McConnell, Dix; Wm. Folsetter, Evansville, Ind.; G. W. Davis, Fairfield.

LOT 38—EQUESTRIANISM.

BOYS' RIDING.

Boy not over 14 years old displaying the best horsemanship in the saddle—9 entries:	
First premium, Frank Funk, Bloomington.....	\$10 00
Second premium, Jacob McClellan, Williamsville.....	5 00
Third premium, Harry A. Conklin, Jerseyville.....	3 00
Fourth premium, Edward J. Armstrong.....	2 00
Fifth premium, Kenny Dalby, Springfield.....	1 00

Awarding Committee—J. N. Beaty, Jerseyville; Charles C. Judy, Tallula; Daniel Stookey, Harriestown.

CLASS C—SHEEP.

D. W. VITTUM, JR., *Superintendent.*

PURE BRED LONG WOOLS.

LOT 39—COTSWOLDS.

RAMS.

Ram 2 years old or over—5 entries:	
First premium, Abner Strawn, Ottawa	\$20 00
Second premium, T. L. Miller, Beecher.....	10 00
Ram 1 year old and under 2—60 entries:	
First premium, W. L. Scott, Scott Station, Ky.....	15 00
Second premium, Abner Strawn, Ottawa.....	10 00
Ram Lamb under 1 year old—15 entries:	
First premium, Abner Strawn, Ottawa	10 00
Second premium, T. L. Miller, Beecher	5 00

EWES.

Ewe 2 years old or over—23 entries:	
First premium, T. L. Miller, Beecher.....	20 00
Second premium, J. A. Brown & Son, Decatur.....	10 00
Ewe 1 year old and under 2—26 entries:	
First premium, W. L. Scott, Scott Station, Ky.....	15 00
Second premium, Abner Strawn, Ottawa.....	10 00
Ewe Lamb under 1 year old—11 entries:	
First premium, Abner Strawn, Ottawa.....	10 00
Second premium, Abner Strawn, Ottawa.....	5 00

Awarding Committee—S. Welch, Plainview.

LOT 40—SWEEPSTAKES—COTSWOLD.

Ram of any age—14 entries:	
Premium, Abner Strawn, Ottawa.....	20 00
Ewe of any age—29 entries:	
Premium, T. L. Miller, Beecher	15 00
Ram and 5 ewes over 2 years old—4 entries:	
Premium, T. L. Miller, Beecher	20 00
Ram with 5 of his get, under 2 years old, of either sex, to be owned and bred by exhibitor—2 entries:	
Premium, Mrs. E. M. Loose, Springfield	20 00

Awarding Committee—Graham Lee, Hamlet.

LOT 41—LEICESTER, LINCOLN, AND OTHER PURE BRED LONG WOOLS.

RAMS.

Ram 2 years old or over—2 entries:	
First premium, W. L. Scott, Scott Station, Ky.....	20 00
Second premium, W. L. Scott, Scott Station, Ky.....	10 00

Ram 1 year old and under 2-5 entries:	
First premium, W. L. Scott, Scott Station, Ky.....	15 00
Second premium, Lee Hickox, Springfield.....	10 00

Ram Lamb under 1 year old—No entries:

EWES.

Ewe 2 years old or over—1 entry:	
First premium, W. L. Scott, Scott Station, Ky.....	10 00
Ewe 1 year old and under 2-2 entries:	
First premium, W. L. Scott, Scott Station, Ky.....	15 00
Second premium, Lee Hickox, Springfield.....	10 00
Ewe Lamb under 1 year old—2 entries:	
First premium, W. L. Scott, Scott Station, Ky....	10 00
Second premium, Lee Hickox, Springfield.....	5 00

Awarding Committee—S. Welch, Plainview.

LOT 42—SWEEPSTAKES—LEICESTER, ETC.

Ram of any age—11 entries:	
Premium, W. L. Scott, Scott Station, Ky.....	20 00
Ewe of any age—14 entries:	
Premium, W. L. Scott, Scott Station, Ky.....	15 00

Ram and 5 Ewes over 2 years old—No entry.

Ram with 5 of his get under 2 years old, of either sex, to be owned and bred by exhibitor—No entry.

Awarding Committee—Graham Lee, Hamlet.

LOT 43—SOUTHDOWN.

RAMS.

Ram 2 years old or over—2 entries:	
First premium, J. H. Potts & Son, Jacksonville.....	\$20 00
Second premium, O. C. Ferris, Galesburg.....	10 00
Ram 1 year old and under 2-4 entries:	
First premium, J. H. Potts & Son, Jacksonville...	15 00
Second premium, W. H. Holland, Cantrall.....	10 00
Ram Lamb under 1 year old—6 entries:	
First premium, S. E. Prather, Sherman.....	10 00
Second premium, J. H. Potts & Son, Jacksonville.....	5 00

EWES.

Ewe, 2 years old or over—8 entries:	
First premium, J. H. Potts & Son, Jacksonville.....	20 00
Second premium, J. H. Potts & Son, Jacksonville.....	10 00
Ewe, 1 year old and under 2-9 entries:	
First premium, J. H. Potts & Son, Jacksonville.....	15 00
Second premium, J. H. Potts & Son, Jacksonville.....	10 00
Ewe Lamb, under 1 year old—9 entries:	
First premium, S. E. Prather, Sherman.....	10 00
Second premium, W. H. Holland, Cantrall.....	5 00

Awarding Committee—C. T. Hoppin, White Oak.

LOT 44—SWEEPSTAKES—SOUTH DOWN.

Ram, of any age—7 entries:	
Premium, J. H. Potts & Son, Jacksonville...	\$20 00
Ewe, of any age—11 entries:	
Premium, J. H. Potts & Son, Jacksonville.....	15 00
Ram and 5 ewes over 2 years old—2 entries:	
Premium, J. H. Potts & Son, Jacksonville.....	20 00

Ram with 5 of his get under 2 years old, of either sex, to be owned and bred by the exhibitor—2 entries:
 Premium, J. H. Potts & Son, Jacksonville..... 20 00

Awarding Committee—R. Rowett, Carlville.

LOT 45—SHROPSHIRE DOWN, HAMPSHIRE DOWN AND OTHER PURE BREED MIDDLE WOOLS.

RAMS.

Ram, 2 years old or over—3 entries:
 First premium, James Cotton, Rockford..... \$20 00
 Second premium, James Cotton, Rockford..... 10 00

Ram 1 year old and under 2—2 entries:
 First premium, James Cotton, Rockford..... 15 00
 Second premium, James Cotton, Rockford..... 10 00

Ram Lamb under 1 year old—4 entries:
 First premium, Taylor Bros., Waynesville..... 10 00
 Second premium, Taylor Bros., Waynesville..... 5 00

EWES.

Ewe 2 years old or over—4 entries:
 First premium, James Cotton, Rockford..... 20 00
 Second premium, James Cotton, Rockford..... 10 00

Ewe 1 year old and under 2—6 entries:
 First premium, James Cotton, Rockford..... 15 00
 Second premium, James Cotton, Rockford..... 10 00

Ewe Lamb under 1 year old—2 entries:
 First premium, Taylor Bros., Waynesville..... 10 00
 Second premium, Taylor Bros., Waynesville..... 5 00

Awarding Committee—C. T. Hoppin, White Oak.

LOT 46—SWEEPSTAKES—SHROPSHIRE DOWN, ETC.

Ram of any age—3 entries:
 Premium, James Cotton, Rockford..... \$20 00

Ewe of any age—5 entries:
 Premium, James Cotton, Rockford..... 15 00

Ram and 5 Ewes over 2 years old—1 entry:
 Premium, James Cotton, Rockford..... 20 00

Ram with 5 of his get under 2 years old, of either sex, to be owned and bred by the exhibitor—1 entry:
 Premium, Taylor Bros., Waynesville..... 20 00

Awarding Committee—R. Rowett, Carlville.

LOT 47—AMERICAN MERINO.

RAMS.

Ram 2 years old or over—13 entries:
 First premium, Taylor Bros., Waynesville..... 20 00
 Second premium, G. W. McFadden & Bro., Atlanta..... 10 00

Ram 1 year old and under 2—11 entries:
 First premium, Taylor Bros., Waynesville..... 15 00
 Second premium, F. E. Day, Streator..... 10 00

Ram Lamb under 1 year old—11 entries:
 First premium, G. W. McFadden & Bro., Atlanta..... 10 00
 Second premium, G. W. McFadden & Bro., Atlanta..... 5 00

EWES.

Ewe 2 years old or over—24 entries:
 First premium, F. E. Day, Streator..... 20 00
 Second premium, F. E. Day, Streator..... 10 00

Ewe 1 year old and under 2—12 entries:
 First premium, F. E. Day, Streator..... 15 00
 Second premium, Taylor Bros., Waynesville..... 10 00

Ewe Lamb under 1 year old—17 entries:	
First premium F. E. Day, Streator	10 00
Second premium, G. W. McFadden & Bro., Atlanta.....	5 00

Awarding Committee—F. Fassett, Springfield.

LOT 48—SWEEPSTAKES—AMERICAN MERINO.

Ram of any age—14 entries:	
Premium, G. W. McFadden & Bro., Atlanta	20 00
Ewe of any age—25 entries:	
Premium, F. E. Day, Streator.....	15 00
Ram and 5 Ewes over 2 years old—7 entries:	
Premium, Cook, Morse & Co., Raymonds, O.....	20 00
Ram with 5 of his get, under 2 years old, of either sex, to be owned and bred by the exhibitor—3 entries:	
Premium, Taylor Bros., Waynesville.....	20 00

Awarding Committee—Samuel Archer, Kansas City, Mo.

LOT 49—FRENCH MERINO, SILESIAN MERINO AND OTHER PURE BRED FINE WOOLS.

No entries.

LOT 50—SWEEPSTAKES—FRENCH MERINOS, ETC.

No entries.

CLASS D—SWINE.

WM. VOORHIES, JR., *Superintendent*.

LOT 51—BERKSHIRES.

BOARS.

Boar 2 years old or over—7 entries:	
First premium, W. D. Coffin, Bement.....	\$20 00
Second premium, B. F. Dorsey & Sons, Perry.....	10 00
Boar 1 and under 2 years—8 entries:	
First premium, A. J. Lovejoy, Roscoe	20 00
Second premium, Taylor Bros. Waynesville.....	10 00
Boar 6 months old and under 1 year—9 entries:	
First premium, A. J. Lovejoy, Roscoe.....	15 00
Second premium, W. C. Norton, Aldenville, Pa.....	10 00
Boar under 6 months old—11 entries:	
First premium, A. J. Lovejoy, Roscoe.....	10 00
Second premium, A. M. Fulford, Bel Air, Md.	5 00

SOWS.

Sow 2 years old or over—13 entries:	
First premium, W. C. Norton, Aldenville, Pa.....	20 00
Second premium, A. J. Lovejoy, Roscoe.....	10 00
Sow 1 and under 2 years—18 entries:	
First premium, W. C. Norton, Aldenville, Pa.....	20 00
Second premium, A. M. Fulford, Bel Air, Md.....	10 00
Sow 6 months old and under 1 year—15 entries:	
First premium, O. Barnard, Bloomington	15 00
Second premium, A. M. Fulford, Bel Air, Md.....	10 00
Sow under 6 months—19 entries:	
First premium, G. J. Nybroe, Athens.....	10 00
Second premium, B. F. Dorsey, Perry..	5 00

BREEDERS' RINGS.

Sow with litter of her own sucking pigs, not less than 5 under 3 months old—6 entries:	
First premium, W. C. Norton, Aldenville, Pa.....	20
Second premium, Taylor Bros., Waynesville.....	10 00
Pen breeding hogs, to consist of 1 boar and 4 sows, of any age, owned by exhibiter—8 entries:	
Premium, B. F. Dorsey & Son, Perry.....	25 00
<i>Awarding Committee</i> —Luke Teeple, Belvidere; Samuel Alden, Sycamore; Valentine Hicks, Lee Centre.	

LOT 52—SWEEPSTAKES—BERKSHIRES.

Boar of any age—18 entries:	
Premium, Taylor Bros., Waynesville.....	\$20 00
Sow of any age—28 entries:	
Premium, B. F. Dorsey & Son, Perry	20 00
<i>Awarding Committee</i> —Joseph Skeavington, Albion; F. M. Morton, Jacksonville; B. F. Atkins, Monticello.	

LOT 53—CHESTER WHITE.

BOAR

Boar, 2 years old or over—1 entry:	
First premium, Taylor Bros., Waynesville.....	\$20 00
Boar, 1 and under 2 years—5 entries:	
First premium, M. Newbern, Hennepin.....	20 00
Second premium, Frank Searls, Hadley.....	10 00
Boar 6 months old and under 1 year—6 entries:	
First premium, E. R. Moody, Eminence, Ky	15 00
Second premium, D. H. Taylor, Jacksonville.....	10 00
Boar under 6 months old—10 entries:	
First premium, Frank Searls, Hadley	10 00
Second premium, Frank Searls, Hadley	5 00

SOWS.

Sow 2 years old or over—6 entries:	
First premium, D. H. Taylor, Jacksonville	20 00
Second premium, Taylor Bros., Waynesville.....	10 00
Sow 1 year old and under 2—3 entries:	
First premium, M. Newbern, Hennepin	20 00
Second premium, Taylor Bros., Waynesville.....	10 00
Sow 6 months old and under 1 year—4 entries:	
First premium, Taylor Bros., Waynesville.....	15 00
Second premium, E. R. Moody, Eminence, Ky.....	10 00
Sow under 6 months old—10 entries:	
First premium, John A. Brown & Son, Decatur.....	10 00
Second premium, S. Stratton, Litchfield	5 00

BREEDER'S RINGS.

Sow with litter of her own sucking pigs, not less than 5 under 3 months old—3 entries:	
First premium, E. R. Moody, Eminence, Ky	20 00
Second premium, Taylor Bros., Waynesville.....	10 00
Pen of breeding hogs, to consist of 1 boar and 4 sows, of any age, owned by the exhibiter—5 entries:	
Premium, Taylor Bros., Waynesville.....	25 00
<i>Awarding Committee</i> —B. F. Atkins, Monticello; F. M. Morton, Jacksonville; James Skeavington, Albion.	

LOT 54—SWEEPSTAKES—CHESTER WHITE.

Boar of any age—6 entries:	
Premium, M. E. Newbern, Hennepin.....	\$20 00
Sow of any age—9 entries:	
Premium, M. E. Newbern, Hennepin.....	20 00
<i>Awarding Committee</i> —Luke Teeple, Belvidere; Samuel Alden, Sycamore; Valentine Hicks, Lee Centre.	

LOT 55—POLAND CHINA.

BOARS.

Boar 2 years old or over—8 entries:	
First premium, B. F. Dorsey & Sons, Perry.....	\$20 00
Second premium, B. R. Cole, Lovington.....	10 00
Boar 1 and under 2 years—4 entries:	
First premium, B. F. Dorsey & Sons, Perry.....	20 00
Second premium, B. R. Cole, Lovington.....	10 00
Boar 6 months old and under 1 year—22 entries:	
First premium, H. C. Castle, Wilmington..	15 00
Second premium, B. R. Cole, Lovington	10 00
Boar under 6 months old—19 entries:	
First Premium, B. F. Dorsey & Sons, Perry	10 00
Second premium, B. R. Cole, Lovington.....	5 00

SOWS.

Sow 2 years old or over—12 entries:	
First premium, H. C. Castle, Wilmington.	20 00
Second premium, B. F. Dorsey & Sons, Perry.....	10 00
Sow 1 year old and under 2 years—14 entries:	
First premium, B. F. Dorsey & Sons, Perry	20 00
Second premium, H. C. Castle, Wilmington.....	10 00
Sow 6 months old and under 1 year—10 entries:	
First premium, B. F. Cole, Lovington	15 00
Second premium, B. F. Cole, Lovington.....	10 00
Sow under 6 months old—34 entries:	
First premium, W. W. McClung, Hennepin.....	10 00
Second premium, John A. Brown & Son, Decatur.....	5 00

BREEDER'S RINGS.

Sow with litter of her own sucking pigs, not less than 5, under 3 months old—3 entries:	
First premium, B. F. Waters, Springfield	20 00
Second premium, W. W. McClung, Hennepin	10 00
Pen of breeding hogs to consist of 1 boar and 4 sows of any age to be owned by the exhibitor—5 entries:	
Premium, B. F. Dorsey & Sons, Perry	25 00
<i>Awarding Committee</i> —Joseph Skeavington, Albion; F. M. Morton, Jacksonville.	

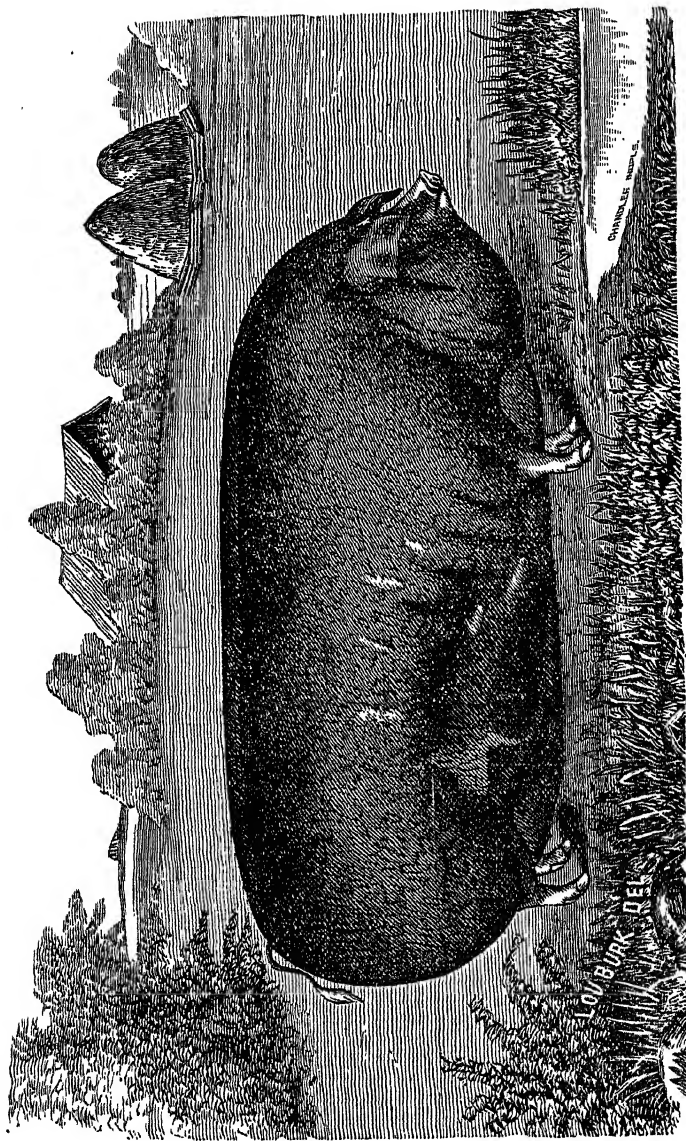
LOT 56—SWEEPSTAKES—POLAND CHINA.

Boar of any age—28 entries:	
Premium, B. F. Dorsey & Sons, Perry	20 00
Sow of any age—20 entries:	
Premium, H. C. Castle, Wilmington.....	20 00
<i>Awarding Committee</i> —Luke Tecple, Belvidere; Samuel Alden, Sycamore; Valentine Hicks, Lee Centre.	

LOT 57—SUFFOLK, SMALL YORKSHIRE, SHORT FACED LANCASHIRE AND OTHER DISTINCT BREEDS.

BOARS.

Boar 2 years old or over—4 entries:	
First premium, Taylor Bros., Waynesville	\$20 00
Second premium, V. Barber, Decatur	10 00
Boar 1 year old and under 2 years—5 entries:	
First premium, Taylor Bros., Waynesville ..	20 00
Second premium, V. Barber, Decatur.....	10 00
Boar 6 months old and under 1 year—3 entries:	
First premium, Taylor Bros., Waynesville ...	15 00
Second premium, J. M. Gillett, Jr., Spencer.....	10 00
Boar under 6 months old—6 entries:	
First premium, V. Barber, Decatur.	10 00
Second premium, Taylor Bros., Waynesville.....	5 00



POLAND CHINA SOW, "QUEEN OF THE NEST."
Exhibited by H. C. CASTLE, Wilmington, Illinois. Winner of Sweepstakes Prize, State Fair 1870.

SOWS.

Sow, 2 years old or over—4 entries:	
First premium, Taylor Bros., Waynesville.....	20 00
Second premium, J. M. Gillett, Jr., Spencer.....	10 00
Sow, 1 and under 2 years—8 entries:	
First premium, Taylor Bros., Waynesville.....	20 00
Second premium, W. M. Holmes, Greenwich, N. Y.....	10 00
Sow, 6 months old and under 1 year—3 entries:	
First premium, W. M. Holmes, Greenwich, N. Y.....	15 00
Second premium, Taylor Bros., Waynesville.....	10 00
Sow under 6 months old—7 entries:	
First premium, V. Barber, Decatur.....	10 00
Second premium, V. Barber, Decatur.....	5 00

BREEDER'S RINGS.

Sow, with litter of her own sucking pigs, not less than 5, under three months old—3 entries:	
First premium, V. Barber, Decatur.....	20 00
Second premium, J. M. Gillett, Jr., Spencer.....	10 00
Pen of breeding hogs, to consist of 1 boar and 4 sows, of any age, to be owned by the exhibitor—4 entries:	
Premium, Taylor Bros., Waynesville.....	25 00
<i>Awarding Committee</i> —Luke Teeple, Belvidere; Samuel Alden, Sycamore; Valentine Hicks, Lee Centre.	

LOT 58—SWEEPSTAKES—SUFFOLK—SMALL YORKSHIRE—SHORT FACED LANCASHIRE AND OTHER DISTINCT BREEDS.

Boar of any age—9 entries:	
Premium, J. M. Gillett, Jr., Spencer.....	\$20 00
Sow of any age—10 entries:	
Premium, Taylor Bros., Waynesville.....	20 00
<i>Awarding Committee</i> —B. F. Atkins, Monticello; Jos. Skeavington, Albion; F M. Morton, Jacksonville.	

LOT 59—ESSEX.

BOARS.

Boar 2 years old or over—2 entries:	
First premium, Taylor Bros., Waynesville.....	\$20 00
Second premium, J. A. Patten, Hennepin.....	10 00
Boar 1 and under 2 years—2 entries:	
First premium, Taylor Bros., Waynesville.....	20 00
Second premium, J. A. Patten, Hennepin.....	10 00
Boar 6 months old and under 1 year—2 entries:	
First premium, J. A. Patten, Hennepin.....	15 00
Second premium, Taylor Bros., Waynesville.....	10 00
Boar under 6 months—5 entries:	
First premium, A. Reed, Jacksonville.....	10 00
Second premium, A. Reed, Jacksonville.....	5 00

SOWS.

Sow 2 years old or over—2 entries:	
First premium, Taylor Bros., Waynesville.....	20 00
Second premium, J. A. Patten, Hennepin.....	10 00
Sow 1 and under 2 years—3 entries:	
First premium, J. A. Patten, Hennepin.....	20 00
Second premium, Taylor Bros., Waynesville.....	10 00
Sow 6 months old and under 1 year—2 entries:	
First premium, J. A. Patten, Hennepin.....	15 00
Second premium, J. A. Patten, Hennepin.....	10 00
Sow under 6 months old—5 entries:	
First premium, A. Reed, Jacksonville.....	10 00
Second premium, A. Reed, Jacksonville.....	5 00

BREEDER'S RINGS.

Sow with litter of her own sucking pigs, not less than 5, under 3 months old

--2 entries:

First premium, Taylor Bros., Waynesville.....	20 00
Second premium, J. A. Patten, Hennepin.....	10 00

Pen of breeding hogs, to consist of 1 boar and 4 sows of any age, owned by the exhibitor--2 entries:

Premium, Taylor Bros., Waynesville.....	25 00
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Awarding Committee--Jos. Skeavington, Albion; F. M. Morton, Jacksonville; B. F. Atkins, Monticello.

LOT 60--SWEEPSTAKES--ESSEX.

Boar of any age--4 entries:

Premium, A. Reed, Jacksonville.....	\$20 00
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Sow of any age--4 entries:

Premium, J. A. Patten, Hennepin.....	20 00
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Awarding Committee--Luke Teeple, Belvidere; Samuel Alden, Sycamore; Valentine Hicks, Lee Centre.

CLASS E--POULTRY.

H. D. EMERY, *Superintendent.*

LOT 61--ASIATIC.

Pair Light Brahmas, fowls--8 entries:

First premium, J. B. Foot, Norwood Park.....	\$3 00
Second premium, J. H. Leaton, Bloomington.....	2 00

Pair Light Brahmas, chicks--13 entries:

First premium, M. L. Fullenwider, Mechanicsburg.....	3 00
Second premium, P. A. Bartlett, Jacksonville.....	2 00

Pair Dark Brahmas, fowls--6 entries:

First premium, J. H. Leaton, Bloomington.....	3 00
Second premium, H. Ringhouse, Bloomington.....	2 00

Pair Dark Brahmas, chicks--10 entries:

First premium, Klauenberg & Lorenz, Carlinville.....	3 00
Second premium, J. H. Leaton, Bloomington.....	2 00

Pair Buff Cochins, fowls--4 entries:

First premium, A. G. Bartholomew Elmwood.....	3 00
Second premium, Wheelock & Blenz, Decatur.....	2 00

Pair Buff Cochins, chicks--7 entries:

First premium, W. R. Harker, Rossville.....	3 00
Second premium, J. H. Leaton, Bloomington.....	2 00

Pair Partridge Cochins, fowls--9 entries:

First premium, J. H. Leaton, Bloomington.....	3 00
Second premium, J. B. Foot, Norwood Park.....	2 00

Pair Partridge Cochins, chicks--13 entries:

First premium, Frink & Patrick, Bloomington.....	3 00
Second premium, Frink & Patrick, Bloomington.....	2 00

Pair White Cochins, fowls--5 entries:

First premium, J. H. Leaton, Bloomington.....	3 00
Second premium, H. Ringhouse, Bloomington.....	2 00

Pair White Cochins, chicks--1 entry:

Second premium, J. H. Leaton, Bloomington.....	2 00
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Pair Black Cochins, fowls--6 entries:

First premium, J. H. Leaton, Bloomington.....	3 00
Second premium, A. G. Bartholomew, Elmwood.....	2 00

Pair Black Cochins, chicks--10 entries:

First premium, P. A. Bartlett, Jacksonville.....	3 00
Second premium, Wheelock & Blenz, Decatur.....	2 00

Awarding Committee--C. P. Hunter, Bloomington; S. J. B. Castle, Carlinville.

LOT 62—DORKING—DOMINIQUE—PLYMOUTH ROCK.

Pair Silver Gray, fowls—2 entries:	
First premium, A. G. Bartholomew, Elmwood...	\$3 00
Second premium, P. A. Bartlett, Jacksonville.....	2 00
Pair Silver Gray, chicks—1 entry:	
No award.	
Pair White, chicks—2 entries:	
First premium, A. G. Bartholomew, Elmwood.....	3 00
Second premium, A. G. Bartholomew, Elmwood.....	2 00
Pair Colored, chicks—1 entry:	
First premium, A. G. Bartholomew, Elmwood.....	3 00
Pair Plymouth Rocks, fowls—4 entries:	
First premium, J. H. Leaton, Bloomington.....	3 00
Second premium, H. Ringhouse, Bloomington.....	2 00
Pair Plymouth Rocks, chicks—16 entries:	
First premium, C. T. Prouty, Carlville.....	3 00
Second Premium, L. Ludington, Farmer City.....	2 00

Awarding Committee—C. P. Hunter, Bloomington.

LOT 63—SPANISH.

Pair Black Spanish (white face), fowls—1 entry:	
First premium, P. A. Bartlett, Jacksonville.....	\$3 00
Pair Black Spanish, chicks—6 entries:	
First premium, P. A. Bartlett, Jacksonville.....	3 00
Second premium, S. S. Reynolds & Son, Carlville.....	2 00
Pair White Leghorn, fowls—3 entries:	
First premium—no award.....	3 00
Second premium, N. A. Thomas, Sterling.....	2 00
Pair White Leghorn, chicks—6 entries:	
First premium, S. S. Reynolds & Son, Carlville.....	3 00
Second premium, S. S. Reynolds & Son, Carlville.....	2 00
Pair Brown Leghorn, fowls—1 entry:	
First premium, Klauenberg & Lorenz, Carlville.....	3 00
Pair Brown Leghorn, chicks—15 entries:	
First premium, Klauenberg & Lorenz, Carlville.....	3 00
Second premium, Wheelock & Blenz, Decatur.....	2 00
Pair Dominique Leghorn, chicks—2 entries:	
First premium, A. G. Bartholomew, Elmwood.....	3 00
Second premium, A. G. Bartholomew, Elmwood.....	2 00
Pair Black Leghorn, fowls—1 entry:	
Second premium, A. G. Bartholomew, Elmwood.....	2 00
Pair Black Leghorn, chicks—4 entries:	
First premium, A. G. Bartholomew, Elmwood.....	3 00
Second premium, J. E. Taylor, New Windsor.....	2 00

Awarding Committee—C. P. Hunter, Bloomington.

LOT 64—HAMBURGS.

Pair Golden Penciled, fowls—1 entry:	
Second premium, A. G. Bartholomew, Elmwood.....	\$2 00
Pair Golden Penciled, chicks—1 entry:	
First premium, A. G. Bartholomew, Elmwood.....	3 00
Pair Silver Penciled, fowls—1 entry:	
First premium A. G. Bartholomew, Elmwood.....	3 00
Pair Golden Spangled, fowls—2 entries:	
First premium, P. A. Bartlett, Jacksonville.....	3 00
Second premium, no award.	
Pair Golden Spangled, chicks—6 entries:	
First premium, S. S. Reynolds & Son, Carlville.....	3 00
Second premium, P. A. Bartlett, Jacksonville.....	2 00

Pair Silver Spangled, fowls—1 entry:	
First premium, Frink and Patrick, Bloomington.....	3 00
Pair Silver Spangled, chicks—5 entries:	
First premium, Frink and Patrick, Bloomington.....	3 00
Second premium, Frink & Patrick, Bloomington.....	2 00
Pair Black, fowls—2 entries:	
First premium, P. A. Bartlett, Jacksonville.....	3 00
Second premium, J. E. Taylor, New Windsor.....	2 00
Pair Black, chicks—2 entries:	
First premium, J. H. Leaton, Bloomington....	3 00
Second premium, A. G. Bartholomew, Elmwood.....	2 00
<i>Awarding Committee—C. P. Hunter, Bloomington.</i>	

LOT 65—POLISH.

Pair Golden Spangled, fowls—9 entries:	
First premium, L. Ludington, Farmer City	\$3 00
Second premium, A. G. Bartholomew, Elmwood ..	2 00
Pair Golden Spangled, chicks—9 entries:	
First premium, L. Ludington, Farmer City	3 00
Second premium, N. A. Thomas, Sterling	2 00
Pair Silver Spangled, fowls—1 entry:	
First premium, A. G. Bartholomew, Elmwood	3 00
Pair Silver Spangled, chicks—2 entries:	
First premium, Wheelock & Blenz, Decatur....	3 00
Second premium, No award.	
Pair White Crested Black, fowls—3 entries:	
First premium, L. Ludington, Farmer City	3 00
Second premium, L. Ludington, Farmer City.....	2 00
Pair White Crested Black, chicks—3 entries:	
First premium, L. Ludington, Farmer City	3 00
Second premium L. Ludington, Farmer City.....	2 00
Pair White, fowls—1 entry:	
First premium, A. G. Bartholomew, Elmwood.....	\$3 00
Pair White, chicks—1 entry:	
First premium, A. G. Bartholomew, Elmwood.....	3 00
<i>Awarding Committee—C. P. Hunter, Bloomington.</i>	

LOT 66—FRENCH.

Pair Houdon, fowls—4 entries:	
First premium, T. H. Steinyer, Carlinville.....	3 00
Second premium, J. E. Taylor, New Windsor.....	2 00
Pair Houdon, chicks—3 entries:	
First premium, J. E. Taylor, New Windsor	3 00
Second premium, T. H. Steinyer, Carlinville....	2 00
<i>Awarding Committee—W. H. Lightfoot, Springfield; James Yount, Freeport.</i>	

LOT 67—GAME.

Pair Black-breasted Red, fowls—1 entry:	
First premium, W. Piedrit, Warsaw.....	3 00
Pair Black-breasted Red, chicks—9 entries:	
First premium, W. Piedrit, Warsaw	3 00
Second premium, J. Halfen, Springfield	2 00
Pair Brown Red, chicks—1 entry:	
No award.	
Pair Ginger-Red, fowls—2 entries:	
First premium, A. G. Bartholomew, Elmwood.....	3 00
Second premium, no award.	
Pair Ginger-Red, chicks—2 entries:	
First premium, P. A. Bartlett, Jacksonville....	3 00
Second premium, J. F. Stroetor, Rock Falls.....	2 00

Pair Gray chicks--1 entry:	
First premium, James Yount, Freeport.....	3 00
Pair White Pile, fowls--1 entry:	
First premium, A. G. Bartholomew, Elmwood	3 00
Pair White Pile, chicks--2 entries:	
No award.	
Pair Black, fowls--1 entry:	
First premium, P. A. Bartlett, Jacksonville.....	3 00
Pair Black, chicks--3 entries:	
First premium, P. A. Bartlett, Jacksonville	3 00
Second premium, J. E. Taylor, New Windsor.....	2 00
Pair Blue, chicks--3 entries:	
First premium, J. E. Taylor, New Windsor	3 00
Second premium, James Yount, Freeport	2 00
Awarding Committee--S. S. Reynolds, Carlinville; C. P. Hunter, Bloomington.	

LOT 68--BANTAMS.

Pair Sebright, fowls--6 entries:	
First premium, J. H. Leaton, Bloomington	\$ 3 00
Second premium, James Yount, Freeport.....	2 00
Pair Sebright, chicks--10 entries:	
First premium, J. H. Leaton, Bloomington	3 00
Second premium, S. S. Reynolds & Son, Carlinville.....	2 00
Pair Red Pile Game, fowls--2 entries:	
First premium, Frink & Patrick, Bloomington	3 00
Second premium, Frink & Patrick, Bloomington	2 00
Pair Red Pile Game, chicks--2 entries:	
First premium, Frink & Patrick, Bloomington.....	3 00
Second premium, Frink & Patrick, Bloomington.....	2 00
Pair White, fowls--2 entries:	
First premium, A. G. Bartholomew, Elmwood	3 00
Second premium, P. A. Bartlett, Jacksonville	2 00
Pair White, chicks--3 entries:	
First premium, A. G. Bartholomew, Elmwood	3 00
Second premium, A. G. Bartholomew Elmwood.....	2 00
Pair Black, fowls--3 entries:	
First premium, N. A. Thomas, Sterling.....	3 00
Second premium, Klauenberg & Lorenz, Carlinville	2 00
Pair Black, chicks--3 entries:	
First premium, N. A. Thomas, Sterling.....	3 00
Second premium--no award.	
Pair Black Red Game, fowls--5 entries:	
First premium, Frink & Patrick, Bloomington.....	3 00
Second premium, Frink & Patrick, Bloomington.....	2 00
Pair Black Red Game, chicks--5 entries:	
First premium, Frink & Patrick, Bloomington	3 00
Second premium, W. R. Harker, Rossville	2 00
Pair Duck Wings, fowls--2 entries:	
First premium, P. A. Bartlett, Jacksonville... ..	3 00
Second premium, Mrs. W. A. Bennett, Springfield	2 00
Pair Duck Wings, chicks--2 entries:	
First premium, P. A. Bartlett, Jacksonville	3 00
Second premium, Frink & Patrick, Bloomington.	2 00
Awarding Committee--W. H. Lightfoot, Springfield; John Henderson, Jacksonville; C. P. Hunter, Bloomington.	

LOT 69--MISCELLANEOUS.

Two Capons--2 entries:	
First premium, N. A. Thomas, Sterling	\$3 00
Second premium, N. A. Thomas, Sterling	2 00
Awarding Committee--James Yount, Freeport; John Henderson, Jacksonville.	

LOT 70—GUINEAS.

Pair White, fowls—2 entries:	
First premium, H. Ringhouse, Bloomington ..	\$3 00
Second premium, Wm. Schenck, Maroa	2 00
Pair White, chicks—2 entries:	
First premium, H. Ringhouse, Bloomington..	3 00
Second premium, H. Ringhouse, Bloomington.....	2 00
Pair Common, fowls—7 entries:	
First premium, J. E. Taylor, New Windsor....	3 00
Second premium, N. A. Thomas, Sterling.....	2 00
Pair Common, chicks—6 entries:	
First premium, N. A. Thomas, Sterling	3 00
Second premium, A. G. Bartholomew, Elmwood....	2 00

Awarding Committee—James Yount, Freeport; John Henderson, Jacksonville.

LOT 71—TURKEYS.

Pair Bronze, fowls—5 entries:	
First premium, P. A. Bartlett, Jacksonville....	\$4 00
Second premium, A. G. Bartholomew, Elmwood.....	2 00
Pair Bronze, chicks—6 entries:	
First premium, Wheelock & Blenz, Decatur ...	4 00
Second premium, A. G. Bartholomew, Elmwood	2 00
Pair Black, fowls—3 entries:	
First premium, P. A. Bartlett, Jacksonville.....	4 00
Second premium, Wheelock & Blenz, Decatur....	2 00
Pair Black, chicks—4 entries:	
First premium, P. A. Bartlett, Jacksonville	4 00
Second premium, J. S. Merriman, Williamsville..	2 00
Pair Slate, fowls—4 entries:	
First premium, J. E. Taylor, New Windsor ..	4 00
Second premium, C. S. Anthony, Curran.	2 00
Pair Slate, chicks—3 entries:	
First premium, W. L. Conner, Springfield....	4 00
Second premium, W. L. Conner, Springfield	2 00
Pair Buff, fowls—1 entry:	
First premium, A. G. Bartholomew, Elmwood.....	4 00
Pair Buff, chicks—1 entry:	
First premium, C. S. Anthony, Curran	4 00
Pair White, fowls—4 entries:	
First premium, S. S. Reynolds & Son, Carlinville	4 00
Second premium, L. Ludington, Farmer City.....	2 00
Pair White, chicks—4 entries:	
First premium, S. S. Reynolds & Son, Carlinville.....	4 00
Second premium, A. G. Bartholomew, Elmwood.....	2 00

Awarding Committee—N. Hall, Bloomington; John Henderson, Jacksonville.

LOT 72—DUCKS.

Pair Aylesbury—3 entries:	
First premium, S. S. Reynolds & Son, Carlinville.....	\$3 00
Second premium, A. G. Bartholomew, Elmwood.....	2 00
Pair Rouen—11 entries:	
First premium, J. F. Streeter, Rock Falls	3 00
Second premium, J. E. Taylor, New Windsor	2 00
Pair Cayuga—3 entries:	
First premium, A. G. Bartholomew, Elmwood.....	3 00
Second premium, P. A. Bartlett, Jacksonville.....	2 00
Pair White Muscovy—1 entry:	
First premium, A. G. Bartholomew, Elmwood	3 00
Pair Colored Muscovy—5 entries:	
First premium, A. G. Bartholomew, Elmwood	3 00
Second premium, Wheelock & Blenz, Decatur....	2 00

Pair White Crested—4 entries:

First premium, A. G. Bartholomew, Elmwood.....	3 00
Second premium, P. A. Bartlett, Jacksonville.....	2 00

Pair Pekin—15 entries:

First premium, H. Ringhouse, Bloomington.....	3 00
Second premium, P. A. Bartlett, Jacksonville.....	2 00

Pair Call—4 entries:

First premium, P. A. Bartlett, Jacksonville.....	3 00
Second premium, Wheelock & Blenz, Decatur.....	2 00

Awarding Committee—James Yount, Freeport.

LOT 73—GEESE.

Pair Embden—7 entries:

First premium, A. G. Bartholomew, Elmwood.....	\$4 00
Second premium, S. S. Reynolds & Son, Carlinville.....	2 00

Pair Toulouse—5 entries:

First premium, J. E. Taylor, New Windsor.....	4 00
Second premium, S. S. Reynolds & Son, Carlinville.....	2 00

Pair White China—4 entries:

First premium, P. A. Bartlett, Jacksonville.....	4 00
Second premium, P. A. Bartlett, Jacksonville.....	2 00

Pair Africans—2 entries:

First premium, A. G. Bartholomew, Elmwood.....	4 00
Second premium, A. G. Bartholomew, Elmwood.....	2 00

Awarding Committee—N. Hall, Bloomington; John Henderson, Jacksonville.

LOT 74—RABBITS.

Pair Madagasear—2 entries:

First premium, J. E. Popkess, Paris.....	\$3 00
Second premium, J. E. Popkess, Paris.....	2 00

Pair White Angoras—3 entries:

First premium, J. E. Popkess, Paris.....	3 00
Second premium, W. B. Read, Bloomington.....	2 00

Pair Fawn Angoras—3 entries:

First premium, J. E. Popkess, Paris.....	3 00
Second premium, W. B. Read, Bloomington.....	2 00

Pair Himalay—3 entries:

First premium, W. B. Read, Bloomington.....	3 00
Second premium, J. E. Popkess, Paris.....	2 00

Pair Dutch—3 entries:

First premium, W. B. Read, Bloomington.....	3 00
Second premium, J. E. Popkess, Paris.....	2 00

Pair Belgian Hares—2 entries:

First premium, J. E. Popkess, Paris.....	3 00
Second premium, J. E. Popkess, Paris.....	2 00

Pair English Rabbits—4 entries:

First premium, J. E. Popkess, Paris.....	3 00
Second premium, W. B. Read, Bloomington.....	2 00

Awarding Committee—James Yount, Freeport.

LOT 75—FERRETS.

Pair English Ferrets—5 entries:

First premium, H. Ringhouse, Bloomington.....	3 00
Second premium, J. E. Popkess, Paris.....	2 00

Pair American White Ferrets—3 entries:

First premium, H. Ringhouse, Bloomington.....	.....
Second premium, no award.	.....

Awarding Committee—James Yount, Freeport.

LOT 76—DISPLAYS.

Display of varieties of Poultry—6 entries:

First premium, A. G. Bartholomew, Elmwood.....	\$15 00
Second premium, P. A. Bartlett, Jacksonville.....	10 00

Display of Pigeons, not less than 10 varieties:

First premium, P. A. Bartlett, Jacksonville..... 10 00
 Second premium, Wheelock & Blenz, Decatur..... 5 00

Awarding Committee—James Yount, Freeport; C. P. Hunter, Bloomington; C. J. Ward, Chicago.

CLASS F—MECHANICS.

Section 1.

J. M. EPLER, *Superintendent.*

LOT 77—STOVES, CASTINGS, WORKED METALS, ETC.

Display of Stoves, Ranges, Tin and Copper Ware:

First premium, J. H. Barkley & Co., Springfield..... Diploma and \$20 00
 Second premium, J. W. Priest, Springfield... 10 00

Display of General Hardware:

Premium, Hudson & House, Springfield..... Silver medal

Display of Cutlery and Mechanics' Tools:

Premium, Hudson & House, Springfield Silver medal

Fruit Dryer:

Premium, E. P. Cooper, agent, Pana .. Silver medal

Awarding Committee—H. H. Hall, Jacksonville; B. D. Wright, Petersburg; E. Wolcott, Jacksonville.

LOT 78—HOUSEHOLD FURNITURE.

Display General Household Furniture:

First premium, J. H. Barkley & Co., Springfield..... Diploma and \$20 00
 Second premium, J. W. Priest, Springfield 10 00

Churn:

Premium, J. McDermaid, Rockford..... Silver medal

Washing Machine:

Premium, N H. Williams, Murrayville..... Silver medal

Awarding Committee—H. H. Hall, Jacksonville; B. D. Wright, Petersburg; E. Wolcott, Jacksonville.

LOT 79—MANUFACTURES--VARIOUS KINDS.

Display of Drain Tile—several sizes:

Premium, Culbertson & Smith, White Hall..... Diploma and \$10

Display Paints and Oils:

Premium, P. F. Kimble, Springfield.. Silver medal

Display Tobaccos and Cigars:

Premium, K. Hecht, Springfield..... Silver medal

Display Harness and Saddles:

Premium, C. C. Troxell, Springfield. Silver medal

Display Paper Hangings and Borders:

Premium, P. F. Kimble, Springfield..... Silver medal

Display Hats and Caps:

Premium, C. Wolf & Co., Springfield,..... Silver medal

Awarding Committee—H. H. Hall, Jacksonville; B. D. Wright, Petersburg; E. Wolcott, Jacksonville.

CLASS F—MACHANICS.

Section 2.

W. M. SMITH, *Superintendent.*

LOT 81—ENGINES, MACHINERY, ETC.

Portable Farm Steam Engine:	
Premium, Rinehart, Ballard & Co., Springfield, Ohio	Diploma
Pump for Well:	
Premium, Mast, Foos & Co., Springfield, Ohio.....	Diploma
Portable Grist Mill for farm use:	
Premium, Challenge Mill Co., Batavia	Diploma
Machine for making Drain Tile:	
Premium, H. Brewer & Co., Tecumseh, Mich.....	Diploma and \$20
Machine for making Brick:	
Premium, Kolls & Son, Adrian, Michigan... ..	Diploma
100 assorted Drain Tile:	
Premium, Culbertson & Smith, White Hall.....	Silver medal
Machine for opening ditch for Drain Tile:	
Premium, King, Hamilton & Co., Ottawa.....	Silver medal
Road Making Machine:	
Premium, Sterling Manufacturing Co., Sterling.....	Diploma and \$20
Road Scraper:	
Premium, Furst, Bradley & Co., Chicago	Silver medal
Portable Mill for shelling and grinding corn:	
Premium, Challenge Mill Co., Batavia	Silver medal
Horse Hay Fork:	
Premium, J. E. Porter, Ottawa	Silver medal
Horse Hay Derrick for Stacking:	
Premium, J. E. Porter, Ottawa	Silver medal
Hay Elevator and Carrier for moving hay in barns:	
Premium, J. E. Porter, Ottawa	Silver medal
Horse Power:	
Premium, Russell & Co., Massillon, Ohio	\$10 00
Hay and Straw Cutter:	
Premium, David Lawton, Racine, Wisconsin.....	Silver medal
Mower Knife Grinder:	
Premium, Powell & Douglas, Waukegan	Silver medal
<i>Awarding Committee—J. R. Miller, Caseyville; Geo. W. Hiser, Lexington; Wm. T. Bockman, Tallula.</i>	

LOT 83--IMPLEMENTS, VEHICLES, ETC.

Steaming Apparatus for cooking food for stock:	
Premium, A. G. Beathy, Independence, Iowa.....	Diploma and \$10
Iron Fence and Gate:	
Premium, Kenton Iron Fence Co., Kenton, Ohio.....	Silver Medal
Gate for farm use:	
Premium A. J. Horner, Joliet.....	Silver Medal
Hay and Cattle Scales for farm use:	
Premium, Comstock Scale Works.....	Diploma and \$10
Display of 2 seated Carriages of various kinds:	
Premium, James Wiley, Weathersfield	Diploma and \$10
Display of Buggies:	
Premium, Withey Bros., Springfield.....	Diploma and \$10

Two Horse Carriage:	
Premium, Withey Bros., Springfield.....	Silver medal
Top Buggy:	
Premium, Withey Bros., Springfield.....	Silver medal
Open Buggy:	
Premium, F. Gerrard, Lincoln.....	Silver medal
Two Horse Wagon:	
Premium, Peter Schuttler, Chicago.....	Diploma and \$10
Spring Wagon:	
Premium, Kingman and Co., Peoria.....	Diploma and \$5
<i>Awarding Committee</i> —Geo. W. Hiser, Lexington; J. R. Miller, Caseyville; W. T. Beekman, Tallula.	

CLASS G—FARM PRODUCTS.

SAMUEL DOUGLAS, *Superintendent.*

LOT 85—GRAINS AND SEEDS.

Sample White Winter Wheat, one bushel:	
First premium, Wm. Schenck, Maroa.....	\$10 00
Second premium, W. J. Ellinwood, Chicago.....	5 00
Sample Red Winter Wheat, one bushel:	
First premium, G. A. Taylor, Rushville.....	10 00
Second premium, Mrs. Elizabeth Furrow, Rochester.....	5 00
Sample Red Spring Wheat, one bushel:	
First premium, Wm. Schenck, Maroa.....	10 00
Second premium, G. B. Hickman, Lincoln.....	5 00
Sample Rye, one bushel:	
First premium, Wm. Schenck, Maroa.....	5 00
Second premium, L. McMurray, Farmingdale.....	3 00
Sample Oats, one bushel:	
First premium, C. S. Anthony, Berlin.....	5 00
Second premium, Wm. Schenck, Maroa.....	3 00
Sample Fall Barley, one bushel:	
First premium, Wm. Schenck, Maroa.....	5 00
Sample Spring Barley, one bushel:	
First premium, Wm. Schenck, Maroa.....	5 00
Sample White Indian Corn in the ear, one bushel:	
First premium, B. L. Auxier, Berry.....	5 00
Second premium, Felix Carver, Springfield.....	3 00
Sample Yellow Indian Corn:	
First premium, Wm. Sanders, Warrensburg.....	5 00
Second premium, John Sells, Bloomington.....	3 00
Sample of Corn on the Stalk:	
First premium, Chas. Beerup, Springfield.....	2 00
Second premium, Wm. Schenck, Maroa.....	1 00
Sample of Pop Corn, one peck:	
First premium, Felix Carver, Springfield.....	3 00
Second premium, W. Stevens, Springfield.....	2 00
Sample of Buckwheat, one bushel:	
First premium, Chas. Beerup, Springfield.....	5 00
Second premium, John H. Murphy, Bement.....	2 00
Sample Timothy seed, one bushel:	
First premium, W. J. Ellinwood, Chicago.....	5 00
Second premium, John T. Butler, Atlanta.....	2 00
Sample Clover seed, one bushel:	
First premium, A. B. Watts, Farmingdale.....	5 00
Second premium, W. J. Ellinwood, Chicago.....	2 00

Sample Blue Grass seed, one bushel:	
First premium, George S. Haskell & Co., Rockford	5 00
Second premium, W. J. Ellinwood, Chicago	2 00
Sample Orchard Grass seed, one bushel:	
First premium, W. J. Ellinwood, Chicago.....	5 00
White Field Beans, half bushel:	
First premium, A. C. Malone, Chatham.....	5 00
Lima Beans, one peck:	
First premium, Mrs. W. A. Bennett, Springfield	5 00
Castor Beans:	
Premium, Trumble, Reynolds & Allen, Kansas City, Mo.....	10 00
Display Grains and Seeds, samples distinct from foregoing:	
Premium, Felix Carver, Springfield.....	30 00
Display by County Agricultural Board:	
Premium, Stark County Agricultural Board.....	10 00
<i>Awarding Committee</i> —W. K. Dunlap, Dunlap Prairie; Miss Emma Burkhart, Springfield; H. S. Douglas, Monmouth.	

LOT 86—VEGETABLES.

Early Irish Potatoes, one bushel:	
First premium, John Wilcox, Rockford.....	\$5 00
Second premium, Wm. Sanders, Warrensburg.....	3 00
Late Irish Potatoes, one bushel:	
First premium, John Ingles, Old Berlin	5 00
Second premium, John Ingles, Old Berlin.....	3 00
Sweet Potatoes, one bushel:	
First premium, Mrs. Elizabeth Furrow, Rochester.....	5 00
Second premium, Wm. Stevens, Springfield.....	3 00
Onions, one bushel:	
First premium, W. J. Ellinwood, Chicago	4 00
Second premium, C. G. Boehme, Freeport	2 00
Table Turnips, one bushel:	
First premium, John Ingles, Old Berlin.....	4 00
Second premium, John Megready, Springfield.....	2 00
Table Beets, one bushel:	
First premium, John Megready, Springfield	4 00
Second premium, George Bauman, Springfield	2 00
Mangel Wurzel, one bushel:	
First premium, John Megready, Springfield ..	4 00
Second premium, Wm. Stevens, Springfield	2 00
Parsnips for table use, one bushel:	
First premium, John Megready, Springfield.	4 00
Second premium, C. G. Boehme, Freeport.....	2 00
Cauliflower:	
First premium, J. G. Pierson, Springfield ..	4 00
Second premium, J. Beauscher, Freeport	2 00
Twelve stalks Celery:	
First premium, C. G. Boehme, Free port	4 00
Second premium, John Beauscher, Freeport.....	2 00
Six heads of Cabbage:	
First premium, John Megready, Springfield.....	4 00
Second premium, J. & L. Lightfoot, Beardstown	2 00
Tomatoes, $\frac{1}{2}$ bushel:	
First premium, John Megready, Springfield ..	4 00
Second premium, Mrs. J. Beejer, Springfield	2 00
Six Pumpkins:	
Premium, Wm. Stevens, Springfield ..	4 00
Six Squashes:	
Premium, T. Coleman, Springfield..	4 00
Six Watermelons:	
First premium, James A. Stone, Bradfordton ..	4 00
Second premium, Felix Carver, Springfield.....	2 00

Six Muskmelons:	
First premium, Wm. Stevens, Springfield.....	4 00
Second premium, Felix Carver, Springfield	2 00
Carrots, one bushel:	
Premium, John Megready, Springfield.....	5 00
6 Egg-plant:	
First premium, Wm. Stevens, Springfield.....	4 00
Second premium, John Beauscher, Freeport.....	2 00
Bale of Hops:	
Premium, A. and W. H. Lightfoot, Springfield.....	4 00
Best and greatest variety Garden Seeds, named:	
First premium, W. J. Ellinwood, Chicago	10 00
Second premium, Geo. S. Haskell & Co., Rockford.....	5 00
10 pounds Tobacco, " in hand:	
First premium, John Beauscher, Freeport.....	5 00
Second premium, C. G. Boehme, Freeport.....	3 00
Sugar Beets, one bushel:	
First premium, C. G. Boehme, Freeport.....	4 00
Greatest variety of Vegetables:	
Premium, William Stevens Springfield.....	15 00
<i>Awarding Committee</i> —H. S. Douglas, Monmouth; Miss Emma Burkhardt, Springfield; W. K. Dunlap, Dunlap Prairie.	

LOT 87—BUTTER, CHEESE, ETC.

Barrel of Winter Wheat Flour:	
Premium, C. P. Chapman & Co., Pittsfield.....	Diploma.
25 lbs. Butter in tub or firkin, made at any time during the year:	
First premium, R. Hawkey, Cherry Valley, Ill	\$10 00
Second premium, Mrs. W. A. Bennett, Springfield.....	5 00
20 lbs. Butter made in May or June:	
First Premium, R. Hawkey, Cherry Valley	10 00
Second premium, Mrs. Elizabeth Furrow, Rochester.....	5 00
10 lbs. Fresh Butter in roll:	
Premium, Mrs. W. A. Bennett, Springfield... ..	10 00
Best and largest display of Butter:	
Premium, R. Hawkey, Cherry Valley.....	25 00
Cured Cheese under 1 year old:	
First premium, James Shinn & Son, Springfield.. ..	10 00
Second premium, Mrs. Cellie Keen, Atlanta	5 00
New Cheese:	
First premium, Loami Creamery, Loami	10 00
Second premium, W. J. Brown, Springfield.....	5 00
Best and largest display of Cheese:	
Premium, James Shinn & Sons, Springfield.....	25 00
10 pounds Honey:	
First premium, Elvin Armstrong, Jerseyville	5 00
Second premium, C. N. Vandervoort, Randolph.....	3 00
<i>Awarding Committee</i> —W. K. Dunlap, Dunlap Prairie; Miss Emma Burkhardt, Springfield, H. S. Douglas, Monmouth.	

LOT 88—BREAD, CAKES, ETC.

Wheat Bread—Hop Yeast:	
First premium, Mrs. C. C. Brown, Springfield	\$6 00
Second premium, W. J. Ellinwood, Chicago	4 00
Wheat Bread—Milk Rising:	
First premium, Mrs. Cellie Keene, Atlanta.....	6 00
Second premium, C. N. Vandervoort, Randolph.....	4 00
Wheat Bread, unbolted Flour:	
First premium, Mrs. W. A. Bennett, Springfield	6 00
Second premium, M. E. Doyle, Springfield.....	4 00

Rye Bread:		
First premium, Mrs. M. A. Hilles, Dixon	6 00	
Second premium, Mrs. Jennie Taggart, Decatur	4 00	
Corn Bread:		
First premium, Mrs. H. B. Barnard, Pekin	6 00	
Second premium, Mrs. Jennie Taggart, Decatur	4 00	
Sponge Cake:		
First premium, Mrs. Ella McDonald, Jacksonville	4 00	
Second premium, C. S. Anthony, Berlin	2 00	
Snow Cake:		
First premium, Miss Ella McDonald, Jacksonville	4 00	
Second premium, Minnie Renshaw, Decatur	2 00	
Pound Cake:		
First premium, G. A. Bradford, Springfield	4 00	
Second premium, Mrs. A. N. McDonald, Jacksonville	2 00	
Jelly Cake:		
First premium, Mrs. A. J. Atwood, Pecatonica	4 00	
Second premium, Minnie Renshaw, Decatur	2 00	
Fruit Cake:		
First premium, Mrs. A. N. McDonald, Jacksonville	4 00	
Second premium, Julia A. Murphy, Bement	2 00	
Silver Cake:		
First premium, Miss Ella McDonald, Jacksonville	4 00	
Second premium, Z. T. Turner, Eleroy	2 00	
Gold Cake:		
First premium, Miss Gracie McDonald, Jacksonville	4 00	
Second premium, Z. T. Turner, Eleroy	2 00	
Nut Cake:		
First premium, Miss Nettie Sands, Springfield	4 00	
Second premium, Mrs. A. N. McDonald, Jacksonville	2 00	
Doughnuts:		
First premium, Mrs. W. E. Shutt, Springfield	4 00	
Second premium, Mrs. E. Furrow, Rochester	2 00	
Ginger Cake:		
First premium, Mrs. Cellie Keene, Atlanta	4 00	
Second premium, Miss Ella McDonald, Jacksonville	2 00	
Marble Cake:		
First premium, Mrs. A. J. Atwood, Pecatonica	4 00	
Second premium, Miss Ella McDonald, Jacksonville	2 00	
Orange Cake:		
First premium, Mrs. C. G. Shultz, Monmouth	4 00	
Second premium, Mrs. A. N. McDonald, Jacksonville	2 00	
Lemon Cake:		
First premium, Miss Eliza Epler, Farmingdale	4 00	
Second premium, Mrs. W. F. Dunbar, Springfield	2 00	
Cocoanut Cake:		
First premium, Miss Frank Summers, Curran	4 00	
Second premium, Mrs. W. F. Dunbar, Springfield	2 00	
Queen of the Prairie Cake:		
First premium, Mrs. C. G. Shultz, Monmouth	4 00	
Second premium, Mrs. A. J. Atwood, Pecatonica	2 00	
Sorghum Molasses:		
First premium, D. W. Lyerlee, Anna	3 00	
Second premium, J. G. Frisbie, McLean	2 00	
Browned Coffee, one pound:		
Premium, Mrs. Z. T. Turner, Eleroy	1 00	
Can Sweet Corn:		
Premium, C. R. Talbott, Bradfordton ..	2 00	
Can Common Corn:		
Premium, Mrs. J. D. Mehrtens, Atlanta	2 00	

Awarding Committee—H. S. Douglas, Monmouth; Miss Emma Burkhardt, Springfield; W. K. Dunlap, Dunlap Prairie.

CLASS H—HORTICULTURE AND FLORICULTURE.

Section 1--Trees, Flowers, Plants, etc.

GEO. S. HASKELL, *Superintendent.*

LOT 89—TREES.

Competition open to all.

Collection of *cultivated*, useful, hardy evergreen trees, not less than 6 varieties, not less than 4 of each variety:

First premium, J. B. Spaulding, & Co., Springfield.....Diploma

FLOWERS AND PLANTS.

For professional Florists and dealers only.

Collection of distinct varieties of Greenhouse and Hothouse Plants, not to include specimens entered for other premiums:

First premium, Baird & Tuttle, Bloomington.....Diploma and \$30

Second premium, J. C. McConnell & Co., Jacksonville.....\$20 00

Third premium, Louis Unverzagt, Springfield.....10 00

Collection of Agaves and Aloes:

First premium, J. C. McConnell & Co., Jacksonville.....3 00

Second premium, Louis Unverzagt, Springfield.....2 00

Collection of Cactus:

First premium, J. C. McConnell & Co., Jacksonville.....3 00

Second premium, Baird & Tuttle, Bloomington.....2 00

Collection of Achyranthus:

First premium, J. C. McConnell & Co., Jacksonville.....3 00

Second premium, Baird & Tuttle, Bloomington.....2 00

Collection of Begonias—Foliage in variety:

First premium, Baird and Tuttle, Bloomington.....3 00

Second premium, J. C. McConnell & Co., Jacksonville.....2 00

Collection of Single Geraniums, not less than 12 varieties:

First premium, J. C. McConnell and Co., Jacksonville.....3 00

Second premium, Louis Unverzagt, Springfield.....2 00

Collection of Double Geraniums, in bloom, not less than 6 varieties:

First premium, Louis Unverzagt, Springfield.....3 00

Second premium, J. C. McConnell & Co., Jacksonville.....2 00

Collection of Foliage Plants:

First premium, Baird and Tuttle, Bloomington.....3 00

Second premium, J. C. McConnell & Co., Jacksonville.....2 00

Collection of Abutilons, in bloom:

First premium, Baird and Tuttle, Bloomington.....3 00

Second premium, J. C. McConnell and Co., Jacksonville.....2 00

Collection of Begonias—Winter Blooming:

First premium, J. C. McConnell and Co, Jacksonville.....3 00

Second premium, Louis Unverzagt, Springfield.....2 00

Collection of Carnations, in bloom:

First premium, Louis Unverzagt, Springfield.....5 00

Second premium, J. C. McConnell and Co., Jacksonville.....3 00

Collection of Double Fuchsias, in bloom:

First premium, J. C. McConnell and Co., Jacksonville.....4 00

Collection of Single Fuchsias, in bloom:

First premium, J. C. McConnell and Co., Jacksonville.....4 00

Collection of Lantanas, in bloom, not less than 6 varieties:

Premium, Baird and Tuttle, Bloomington.....2 00

Twelve Roses, in pots, in bloom:

First premium, J. C. McConnell & Co., Jacksonville.....8 00

Second premium, Baird & Tuttle, Bloomington.....4 00

Pair Hanging Baskets of plants:

First premium, J. C. McConnell & Co., Jacksonville.....3 00

Second premium, Louis Unverzagt, Springfield.....2 00

Single Hanging Basket of plants:	
First premium, Louis Unverzagt, Springfield	2 00
Second premium, J. C. McConnell & Co., Jacksonville	1 00
Arranged Group of plants in bloom:	
First premium, J. C. McConnell & Co., Jacksonville	4 00
Second premium, Louis Unverzagt, Springfield	3 00
Single Specimen Plant of any kind:	
Premium, Louis Unverzagt, Springfield	4 00
Collection of Palms:	
Premium, Louis Unverzagt, Springfield	10 00
Collection of Ferns:	
Premium, J. C. McConnell & Co., Jacksonville ..	10 00
Collection of Climbing plants:	
Premium, J. C. McConnell & Co., Jacksonville	5 00
Collection of Caladeums:	
Premium, J. C. McConnell & Co., Jacksonville	3 00
Collection of Cannas:	
Premium, J. C. McConnell & Co., Jacksonville	3 00
Collection of Coleus:	
Premium, Baird & Tuttle, Bloomington	3 00
<i>Awarding Committee</i> --J. C. Vaughan, Chicago; N. A. Catlin, Warren, Pa.; M. Doyle, Springfield.	
Display of Bulbs, correctly named:	
Premium, J. C. Vaughan, Chicago	5 00
<i>Awarding Committee</i> --Samuel Hood, Springfield; S. T. Phoenix, Bloomington; Geo. Callahan, Bloomington.	

LOT 90 CUT FLOWERS.

For Professional Florists.

Collection of Cut Flowers:	
First premium, J. C. McConnell & Co., Jacksonville	\$6 00
Second premium, E. Wyman, Jr., Rockford	4 00
Collection of Antirrhinums:	
First premium, E. Wyman, Jr., Rockford	3 00
Second premium, Mrs. H. D. Canfield, Springfield	2 00
Collection of Asters:	
First premium, Mrs. H. D. Canfield, Springfield ..	5 00
Second premium, E. Wyman, Jr., Rockford	3 00
Collection of Dahlias, named:	
First premium, Baird & Tuttle, Bloomington	5 00
Collection of 18 Dahlias, dissimilar blooms:	
First premium, Baird & Tuttle, Bloomington	5 00
Second premium, Henry Funk, Springfield	3 00
Collection of Pompones or Bouquet Dahlias, not less than 6 in variety:	
First premium, Baird & Tuttle, Bloomington	3 00
Second premium, J. C. McConnell & Co., Jacksonville	2 00
Collection of Everlastings:	
First premium, Geo. E. Haskell, Rockford	5 00
Second premium, J. C. McConnell, Jacksonville	3 00
Collection of Gladioli:	
First Premium, E. Wyman, Jr., Rockford	10 00
Second premium, C. G. Boehme, Freeport	5 00
Collection of Japan Pinks:	
First premium, Mrs. H. D. Canfield, Springfield ...	5 00
Second premium, Louis Unverzagt, Springfield	3 00
Collection of Pansies:	
First premium, James Cole, Peoria	5 00
Second premium, E. Wyman, Jr., Rockford	3 00

Collection of Perennial Phlox:	
First premium, Baird & Tuttle, Bloomington.....	4 00
Second premium, E. Wyman, Jr., Rockford.....	3 00
Collection of Phlox Drummondii:	
First premium, E. Wyman, Jr., Rockford.....	5 00
Second premium, Mrs. H. D., Canfield, Springfield	3 00
Collection of Roses, not less than 20 varieties:	
First premium, Baird & Tuttle, Bloomington	8 00
Second premium, J. C. McConnell & Co., Jacksonville.....	5 00
Collection of Bourbon, Tea, Noisette and Bengals, not less than 12 varieties:	
First premium, J. C. McConnell & Co., Jacksonville.....	5 00
Second premium, Baird & Tuttle, Bloomington.....	3 00
Collection of Tube-roses:	
First premium, Louis Unverzagt, Springfield.....	5 00
Second premium, J. C. McConnell & Co., Jacksonville.....	3 00
Collection of ten week's stock:	
First premium, E. Wyman, Jr., Rockford.....	3 00
Collection of Verbenas:	
First premium, J. C. McConnell & Co., Jacksonville	5 00
Second premium, E. Wyman, Jr., Rockford.....	3 00
Collection of Double Petunias:	
First premium, E. Wyman Jr., Rockford.....	5 00
Second premium, J. C. McConnell & Co., Jacksonville....	3 00
Collection of Single Petunias:	
First premium, E. Wyman Jr., Rockford.....	5 00
Second premium, J. C. McConnell & Co., Jacksonville.....	3 00
Largest and best collection of Cut Flowers, including above:	
Premium, Baird & Tuttle, Bloomington....	Diploma

FLORAL DESIGNS, BOUQUETS, ETC.

Floral Design:	
First premium, J. C. McConnell & Co., Jacksonville.....	15 00
Second premium, Louis Unverzagt, Springfield ..	10 00
Design of Dahlias:	
Premium, J. C. McConnell & Co., Jacksonville.....	5 00
Floral Wreath:	
Premium, Louis Unverzagt, Springfield.....	3 00
Design of Cut Flowers:	
Premium, James Cole, Peoria	5 00
Pair Flat Hand Bouquets:	
Premium, Louis Unverzagt, Springfield	3 00
Pair Round Hand Bouquets:	
Premium, Louis Unverzagt, Springfield.....	3 00
Basket of Cut Flowers:	
Premium, Louis Unverzagt, Springfield.....	5 00
Basket of Winter Flowers:	
Premium, Geo. E. Haskell, Rockford.....	5 00
Bouquet of Grasses:	
Premium, James Cole, Peoria.....	3 00
Bouquet of Winter Flowers:	
Premium, Geo. E. Haskell, Rockford.....	3 00
Pair Bridal Bouquets:	
Premium, Louis Unverzagt, Springfield.....	3 00
Display of Florists Requisites:	
Premium, Geo. E. Haskell, Rockford.....	Diploma and \$10
Display of Wire-Work for garden and house:	
Premium, Charles Fischer, Springfield.....	Diploma and \$10
Awarding Committee—J. C. Vaughan, Chicago; M. Doyle, Springfield; N. A. Catlin, Warren, Pa.	

LOT 91—FLOWERS AND PLANTS—BY AMATEURS.

No professional Florist allowed to compete.

Collection of Greenhouse, Hothouse and Bedding Plants, in pots:	
Premium, Mrs. J. A. Vincent, Springfield.....	\$12 00
Premium, C. A. Gehrman, Springfield	12 00
Collection of Cactus:	
First Premium, Mrs. J. A. Vincent, Springfield.....	3 00
Second Premium, John Beauscher, Freeport	2 00
Collection of Winter Blooming Begonias:	
First premium, Mrs. M. Boehme, Freeport	2 00
Second premium, Mrs. J. A. Vincent, Springfield....	1 00
Collection of Carnations in bloom:	
First premium, Mrs. J. A. Vincent, Springfield....	3 00
Collection of Geraniums:	
First premium, Mrs. J. A. Vincent, Springfield.....	3 00
Second premium, John Beauscher, Freeport.....	2 00
Collection of Foliage Plants:	
First premium, John Beauscher, Freeport	3 00
Second premium, Mrs. M. Boehme, Freeport.....	2 00
Collection of Fuchsias in bloom, not less than 6 varieties:	
First premium, Mrs. J. A. Vincent, Springfield	3 00
Second premium, Mrs. M. Boehme, Freeport.....	2 00
Pair Hanging Baskets of Plants:	
First premium, Nellie B. McConnell, Jacksonville.....	3 00
Second premium, Mrs. J. A. Vincent, Springfield.....	2 00
Single Hanging Basket of Plants:	
First premium, C. A. Gehrman, Springfield	2 00
Second premium, Mrs. J. A. Vincent, Springfield	1 00
Rustic Stand filled with Plants:	
Premium, Nellie B. McConnell, Jacksonville.....	5 00
Vase for Lawn filled with Plants:	
Premium, Nellie B. McConnell, Jacksonville..	5 00
<i>Awarding Committee</i> —Samuel Hood, Springfield; S. T. Phoenix, Bloomington; George Callahan, Bloomington.	

LOT 92—CUT FLOWERS.

No Professional Florist Allowed to Compete.

Collection of Cut Flowers:	
First premium, Mrs. M. A. Hillis, Dixon	\$5 00
Second premium, Miss Maggie W. Canfield, Springfield.....	3 00
Collection of Asters:	
First premium, Mrs. L. E. Franklin, Dixon.....	2 00
Collection of Dahlias, named, not less than 6 varieties:	
First premium, Maude Hinsey, Pekin.....	2 00
Second premium, Mrs. L. E. Franklin, Dixon.....	1 00
Collection of Everlastings:	
First premium, Nellie B. McConnell, Jacksonville.....	2 00
Second premium, Mrs. M. A. Hillis, Dixon	1 00
Collection of Gladioli, not less than 5 varieties:	
First premium, Mrs. M. A. Hillis, Dixon	4 00
Collection of Single Petunias:	
First premium, Maude Hinsey, Pekin	3 00
Collection of Pansies:	
First premium, Mrs. M. Boehme, Freeport.....	2 00
Second premium, Miss Maggie W. Canfield Springfield.....	1 00
Collection of Phlox Drummond:	
First premium, Miss Maggie W. Canfield, Springfield.....	3 00
Second premium, Mrs. M. Boehme, Freeport.....	2 00

Collection of Verbenas, not less than 6 varieties:	
First premium, Mrs. L. E. Franklin, Dixon.....	\$2 00
Second premium, Mrs. M. Boehme, Freeport.....	1 00

Double Zinnia:	
First premium, Miss Hannah M. Heading, Peoria.....	2 00

FLORAL DESIGNS, BOUQUETS, ETC.

Floral Design:	
First premium, Mrs. W. E. Shutt, Springfield.....	15 00
Second premium, Mrs. W. E. Shutt, Springfield.....	10 00

Floral Wreath:	
Premium, Nellie B. McConnell, Jacksonville.....	3 00

Floral Design of Cut Flowers:	
Premium, Miss Maggie W. Canfield, Springfield.....	3 00

Basket of Cut Flowers:	
First premium, Mrs. F. Peek, Jacksonville.....	3 00
Second premium, Nellie B. McConnell, Jacksonville..	2 00

Winter Basket of Flowers, Leaves and Mosses:	
First premium, Nellie B. McConnell, Jacksonville.....	3 00
Second premium, Mrs. W. E. Shutt, Springfield.....	2 00

Pair Winter Bouquets:	
First premium, Nellie B. McConnell, Jacksonville.....	3 00
Second premium, Mrs. M. A. Hillis, Dixon.....	2 00

Awarding Committee—Samuel Hood, Springfield; S. T. Phoenix, Bloomington; Geo. Calahan, Bloomington.

CLASS H—HORTICULTURE.

SECTION 2.

B. FULLEN, *Superintendent.*

LOT 23—HOME GROWN FRUITS.

For Professional Fruit Growers or Orchardists.

Collection of Fruits by a Horticultural Society to be grown within the territorial limits of the Society exhibiting:	
First premium, Centralia Fruit Growers Association.....	\$50 00
Second premium, Warsaw Horticultural Society.....	25 00
Third premium, Champaign Co., Horticultural Society.....	15 00

Collection of Apples (Crabbs excepted) 25 varieties, with 3 specimens of each variety:	
First premium, J. B. Spaulding, & Co., Springfield.....	25 00
Second premium, H. M. Dunlap, Champaign.....	15 00

Collection, 15 varieties, of Apples for Southern Illinois, value for market purposes to be considered:	
First premium, G. H. Baker, Cobden.....	15 00
Second premium, W. A. Boggs, Dix.....	10 00

Collection, 15 varieties, of Apples for Central Illinois, value for market purposes to be considered:	
First premium, H. M. Dunlap, Champaign.....	15 00
Second premium, A. C. Hammond, Warsaw.....	10 00

Collection, 16 varieties, of Apples for Northern Illinois, value for market purposes to be considered:	
First premium, O. B. Galusha, Morris.....	15 00
Second premium, A. Bryant, Princeton.....	10 00

Specimens Siberian Crab Apples, not less than 5 varieties:	
First premium, H. M. Dunlap, Champaign.....	3

Collection of Pears, not less than six varieties, the product of this State:	
First premium, H. M. Dunlap, Champaign.....	

Collection of Autumn Pears, not less than 5 varieties, the product of this State:	
First premium, A. Bryant, Princeton.....	\$5 00
Second premium, H. M. Dunlap, Champaign.....	3 00
Collection of Winter Pears, not less than 3 varieties, the product of this State:	
First premium, A. Bryant, Princeton.....	5 00
Second premium, H. M. Dunlap, Champaign.....	3 00
Collection of Plums, not less than 3 varieties:	
First premium, H. M. Dunlap, Champaign ..	3 00
Display of Grapes, correctly named:	
First premium, Chas. Warner, Springfield.....	10 00
Second premium, H. M. Dunlap, Champaign ..	5 00
Early Grapes, not less than 3 bunches:	
First premium, J. & L. Lightfoot, Beardstown.....	4 00
Second premium, H. M. Dunlap, Champaign.....	2 00
Three varieties of Late Grapes, for family use, not less than 3 bunches each:	
First premium, J. & L. Lightfoot, Beardstown.....	4 00
Second premium, H. M. Dunlap, Champaign.....	2 00
Three varieties of Wine Grapes, not less than 3 bunches each:	
First premium, Chas. Warner, Springfield.....	3 00
Second premium, H. M. Dunlap, Champaign.....	2 00
Most attractive and artistically arranged display of Fruits:	
First premium, H. M. Dunlap, Champaign.....	10 00
Second premium, James T. Johnson, Warsaw.....	5 00
<i>Awarding Committee</i> —James W. Robison, Tremont; L. C. Francis, Springfield; D. B. Wier, Lacon.	

LOT 94—HOME-GROWN FRUITS.

BY AMATEURS.

Collection of Apples, by Farmer or Amateur, 10 varieties:	
First premium, James T. Johnson, Warsaw.....	\$3 00
Second premium, F. E. Baker, Champaign.....	5 00
Collection of Apples, as above, 6 varieties:	
First premium, James T. Johnson, Warsaw.....	5 00
Second premium, F. E. Baker, Champaign.....	3 00
Collection of Pears, by Farmer or Amateur:	
First premium, F. E. Baker, Champaign.....	3 00
Second premium, J. O. Cline, Watson.....	2 00
Collection of Plums, by same:	
First premium, C. G. Boehme, Freeport.....	3 00
Early Grapes, not less than 4 bunches:	
First premium, A. & W. H. Lightfoot, Springfield.....	4 00
Second premium, C. G. Boehme, Freeport.....	2 00
Three varieties of late Grapes, for table use, not less than 3 bunches each:	
First premium, C. G. Boehme, Freeport.....	4 00
Second premium, A. & W. H. Lightfoot, Springfield.....	2 00
Three varieties of Wine Grapes, not less than 3 bunches each:	
First premium, C. G. Boehme, Freeport.....	4 00
Second premium, F. E. Baker, Champaign.....	2 00
Eight varieties of Apples for Southern Illinois:	
First premium, W. P. Mester, Cobden.....	8 00
Second premium, A. L. Walker, Watson.....	4 00
Eight varieties of Apples for Central Illinois:	
First premium, James T. Johnson, Warsaw.....	8 00
Second premium, F. E. Baker, Champaign ..	4 00
Eight varieties of Apples for Northern Illinois:	
First premium, J. W. Riding, Morris ..	8 00
Second premium, Geo. Dunlap, Norwood ..	4 00
Display of Grapes:	
First premium, A. & W. H. Lightfoot, Springfield.....	8 00
Second premium, F. E. Baker, Champaign.....	4 00
<i>Awarding Committee</i> —Jas. W. Robison, Tremont; L. C. Francis, Springfield; D. B. Wier, Lacon.	

LOT 95—JELLIES.

Crab Apple Jelly:	
First premium, Mrs. J. Q. Detwiler, Freeport	\$2 00
Second premium, Mrs. G. H. Deane, Freeport	1 00
Plum Jelly:	
First premium, Mrs. Cellie Keene, Atlanta	2 00
Second premium, Mrs. G. H. Deane, Freeport	1 00
Quince Jelly:	
First premium, Mrs. G. H. Deane, Freeport	2 00
Second premium, Mrs. J. Q. Detwiler, Freeport	1 00
Apple Jelly:	
First premium, Mrs. J. Q. Detwiler, Freeport	2 00
Second premium, Mrs. J. Q. Detwiler, Freeport	1 00
Current Jelly:	
First premium, Mrs. J. Q. Detwiler, Freeport	2 00
Second premium, Miss Ella McDonald, Jacksonville	1 00
Grape Jelly:	
First premium, Mrs. J. F. Robinson, Atlanta	2 00
Second premium, Miss Grace McDonald, Jacksonville	1 00
Peach Jelly:	
First premium, Hattie Mehriens, Atlanta	2 00
Second premium, Mrs. G. H. Deane, Freeport	1 00
Blackberry Jelly:	
First premium, Ella McDonald, Jacksonville	2 00
Second premium, Mrs. W. F. Taggart, Decatur	1 00
Raspberry Jelly:	
First premium, Minnie Renshaw, Decatur	2 00
Second premium, Mrs. J. F. Robinson, Atlanta	1 00
Strawberry Jelly:	
First premium, Mrs. G. H. Deane, Freeport	2 00
Second premium, Mrs. J. F. Robinson, Atlanta	1 00
Gooseberry Jelly:	
First premium, Mrs. G. H. Deane, Freeport	2 00
Second premium, Mrs. J. Q. Detwiler, Freeport	1 00
Cherry Jelly:	
First premium, E. H. Bierer, Rockford	2 00
Second premium, Mrs. J. Q. Detwiler, Freeport	1 00
<i>Awarding Committee—Mrs. W. E. Shutt, Springfield; Miss L. M. Spear, Springfield;</i>	
<i>Mrs. J. A. Nafew, Springfield.</i>	

LOT 96—CANNED FRUITS.

Canned Peaches:	
First premium, Mrs. Jennie Taggart, Decatur	\$3 00
Second premium, Mrs. J. F. Robinson, Atlanta	2 00
Canned Peas:	
First premium, Mrs. W. F. Taggart, Decatur	3 00
Second premium, Mrs. H. C. McIntire, Havana	2 00
Canned Plums:	
First premium, Mrs. Cellie Keene, Atlanta	3 00
Second premium, Mrs. J. F. Robinson, Atlanta	2 00
Canned Cherries:	
First premium, Mrs. Cellie Keene, Atlanta	3 00
Second premium, W. Willis, DuPage	2 00
Canned Currents:	
First premium, E. H. Bierer, Rockford	3 00
Second premium, Mrs. Jennie Taggart, Decatur	2 00
Canned Gooseberries:	
First premium, Mrs. Cellie Keene, Atlanta	3 00
Second premium, Mrs. J. F. Robinson, Atlanta	2 00
Canned Raspberries:	
First premium, E. H. Bierer, Rockford	3 00
Second premium, Mrs. Jennie Taggart, Decatur	2 00

Canned Strawberries:	
First premium, E. H. Bierer, Rockford.....	\$3 00
Second premium, Mrs. J. F. Robinson, Atlanta.....	2 00
Canned Grapes:	
First premium, Mrs. H. C. McIntire, Havana.....	3 00
Second premium, W. Willis, DuPage.....	2 00
Canned Tomatoes:	
First premium, Mrs. Jennie Taggart, Decatur.....	3 00
Second premium, Mrs. Callie Keene, Atlanta.....	2 00
Canned Blackberries:	
First premium, W. Willis, DuPage.....	3 00
Second premium, Mrs. J. F. Robinson, Atlanta.....	2 00
Canned Quinces:	
First premium, Mrs. A. N. McDonald, Jacksonville.....	3 00
Second premium, Miss Ella McDonald, Jacksonville.....	2 00

Awarding Committee—Mrs. M. J. Pond, Pleasant Plains; Mrs. W. E. Shutt, Springfield; Mrs. J. A. Nafew, Springfield.

LOT 97—PRESERVED FRUITS, JAMS, ETC.

Preserved Crab Apples:	
First premium, Mrs. J. Q. Detwiler, Freeport.....	\$2 00
Second premium, Mrs. G. H. Deane, Freeport.....	1 00
Preserved Peaches:	
First premium, Miss Hattie Mehrtens, Atlanta.....	2 00
Second premium, Mrs. G. H. Deane, Freeport.....	1 00
Preserved Plums:	
First premium, Mrs. J. Q. Detwiler, Freeport.....	2 00
Second premium, Mrs. R. H. Shultz, Monmouth.....	1 00
Preserved Apples:	
First premium, Mrs. G. H. Deane, Freeport.....	2 00
Second premium, Mrs. J. Q. Detwiler, Freeport.....	1 00
Preserved Quinces:	
First premium, Mrs. A. N. McDonald, Jacksonville.....	2 00
Second premium, Miss Ella McDonald, Jacksonville.....	1 00
Preserved Grapes:	
First premium, Mrs. W. F. Taggart, Decatur.....	2 00
Second premium, Mrs. C. H. Woodruff, Girard.....	1 00
Preserved Pears:	
First premium, Mrs. J. Q. Detwiler, Freeport.....	2 00
Second premium, Mrs. Jennie Taggart, Decatur.....	1 00
Preserved Strawberries:	
First premium, Mrs. G. H. Deane, Freeport.....	2 00
Second premium, Mrs. R. H. Shultz, Monmouth.....	1 00
Preserved Cherries:	
First premium, Mrs. W. F. Taggart, Decatur.....	2 00
Second premium, Mrs. Callie Keene, Atlanta.....	1 00
Preserved Tomatoes:	
First premium, Mrs. G. H. Deane, Freeport.....	2 00
Second premium, Mrs. W. F. Taggart, Decatur.....	1 00
Apple Butter:	
First premium, Mrs. E. Furrow, Rochester.....	2 00
Second premium, Hattie Mehrtens, Atlanta.....	1 00
Raspberry Jam:	
First premium, Mrs. W. F. Taggart, Decatur.....	2 00
Second premium, Miss Grace McDonald, Jacksonville.....	1 00
Blackberry Jam:	
First premium, Mrs. A. N. McDonald, Jacksonville.....	2 00
Second premium, Mrs. A. N. McDonald, Jacksonville.....	1 00

Awarding Committee—Mrs. V. M. Kenney, New Berlin; Mrs. W. E. Shutt; Springfield; Mrs. J. A. Nafew, Springfield.

LOT 98—PICKLES, CATSUPS, ETC.

Sour Pickled Cucumbers:	
First premium, W. Willis, DuPage.....	\$2 00
Second premium, Mrs. R. H. Shultz, Monmouth.....	1 00
Sweet Pickled Cucumbers:	
First premium, Miss Ella McDonald, Jacksonville.....	2 00
Second premium, Mrs. J. F. Robinson, Atlanta.....	1 00
Pickled Cherries:	
First premium, Miss Ella McDonald, Jacksonville.....	2 00
Second premium, Mrs. Cellie Keene, Atlanta.....	1 00
Pickled Mangoes:	
First premium, Mrs. J. H. Freeman, Springfield.....	2 00
Second premium, Mrs. Cellie Keene, Atlanta.....	1 00
Pickled Peaches:	
First premium, Mrs. A. N. McDonald, Jacksonville.....	2 00
Second premium, Mrs. Cellie Keene, Atlanta.....	1 00
Pickled Gherkins:	
First premium, Mrs. J. Beeler, Springfield.....	2 00
Second premium, Mrs. Cellie Keene, Atlanta.....	1 00
Pickled Tomatoes:	
First premium, Mrs. J. Beeler, Springfield.....	2 00
Second premium, Mrs. Cellie Keene, Atlanta.....	1 00
Tomato Catsup:	
Premium, Miss Hannah M. Heading, Peoria.....	3 00
Display of Jellies, Canned Fruits, Preserves, Jams, Pickles and Catsups, by one exhibitor, (not to include samples entered for other premiums):	
First premium, Mrs. Cellie Keene, Atlanta.....	10 00
Second premium, Mrs. J. F. Robinson, Atlanta.....	5 00
Awarding Committee—Mrs. W. E. Shutt, Springfield; Mrs. J. A. Nafew, Springfield; Miss L. M. Spear, Springfield.	

CLASS I—FINE AND LIBERAL ARTS.

JOHN P. REYNOLDS, *Superintendent.*

Original Oil Painting:	
First premium, J. R. Duncan, Sullivan.....	Diploma and \$30
Second premium, Frank Dirkson, Peoria.....	15
Fancy Painting in Oil:	
Premium, Mrs. Emma K. Ryan, Springfield.....	Silver medal
Cattle Piece in Oil:	
Premium, J. R. Duncan, Sullivan.....	Silver medal
Animal Painting in Oil:	
Premium, E. H. Dewey, Canton.....	Silver medal
Fruit Painting in Oil:	
Premium, Nora Dunn.....	Diploma
Collection of Five Oil Paintings:	
Premium, Inez L. Andrew, Lincoln.....	Silver medal
Specimen Flower Painting in Water Colors:	
Premium, Frank Dirkson, Peoria.....	Silver medal
Specimen Bird Painting in Water Colors:	
Premium, Mrs. E. M. Loose, Springfield.....	Diploma
Portrait in Crayon:	
Premium, Pietz & Leuttich, Springfield.....	Diploma

Crayon Drawing, other than portrait:	
Premium, F. P. Knott, Chicago.....	Silver medal
Plain Photograph:	
Premium, Pietz & Lentlich, Springfield.....	Diploma
Photograph in Water Colors:	
Premium, J. A. W. Pittman, Springfield.....	Silver medal
Copied Work, touched in Water Colors:	
Premium, E. M. Barr, Jacksonville	Silver medal
Collection of 12 Stereoscopic Views:	
Premium, J. A. W. Pittman, Springfield.....	Silver medal
Oil Colored Photograph:	
Premium, J. A. W. Pittman, Springfield.....	Diploma
Painting on Silk:	
Premium, Mrs. C. M. Smith, Springfield	Silver medal
<i>Awarding Committee</i> —Wm. Braddock, Springfield; Wm. Piedrit, Warsaw; A. B. Judkins, Springfield; T. F. Mitchell, Bloomington; J. M. Adair, Springfield; A. Leiber, Springfield.	

LOT 101—PRINTING, ENGRAVING, ARCHITECTURAL AND MECHANICAL DRAWING, AND DECORATIVE ART DESIGNING.

Collection 5 Chromos:	
Premium, P. F. Kimble, Springfield.....	Silver medal
Pencil Drawing:	
Premium, Frank Dirksen, Peoria	Diploma
Pencil Drawing by boy under 15 years of age:	
Premium, W. H. Garrett, Philadelphia, Penn.....	Diploma
Collection of Fresco Drawings:	
Premium, Frank Dirksen, Peoria	Diploma
Architectural Drawing and specification for Farm House and out buildings:	
Premium, M. E. Bell, Springfield	Diploma
Plain Penmanship:	
Premium, D. L. Musselman, Quincy.....	Silver medal
Ornamental Penmanship:	
Premium, D. L. Musselman, Quincy	Silver medal
Pen Drawing:	
Premium, Business College, Jacksonville	Silver medal
Pen Lettering:	
First premium, D. L. Musselman, Quincy.....	Diploma
Second premium, Business College, Jacksonville...	\$5 00
Course in Book Keeping:	
Premium, D. L. Musselman, Quincy	Diploma
<i>Awarding Committee</i> —A. Leiber, Springfield; W. Braddock, Springfield, A. B. Judkins, Springfield.	

LOT 102—WAX, FEATHER, HAIR WORK, ETC.

Sample White Wax Work:	
First premium, Mrs. B. M. Griffith, Springfield	\$2 00
Second premium, A. B. Watts, Farmingdale	1 00
Sample Colored Wax Work:	
First premium, Mrs. H. B. Barnard, Pekin	2 00
Second premium, Mrs. H. B. Barnard, Pekin.....	1 00
Sample Work in Feathers:	
First premium, Niana Converse, Springfield	2 00
Second premium, Mrs. H. B. Barnard, Pekin	1 00
Sample of Work in Hair:	
First premium, Amanda M. Moore, Springfield.....	2 00
Second premium, Mrs. J. H. Lockridge, Auburn.....	1 00

Shell Work:	
First premium, Mrs. Martha Gravill, Ridgley	2 00
Second premium, Mrs. Martha Gravill, Ridgley ..	1 00
Fancy Worsted Boquet:	
First premium, F. A. Cover, Williamsville	2 00
Second Premium, Amanda M. Moore, Springfield	1 00
Leather Work:	
First premium, Amanda M. Moore, Springfield.....	2 00
Second premium, Mrs H. B. Barnard, Pekin.....	1 00
Bead Work:	
First premium, Mrs. B. M. Griffith, Springfield.....	2 00
Second premium, Mrs. R. H. Shultz, Monmouth.....	1 00
Mosaic or Papier Mache Work:	
First premium, Mrs. W. E. Shutt, Springfield.....	2 00
Second premium, Mrs. B. M. Griffith, Springfield	1 00
Imitation of Fruits:	
First premium, Mrs. H. B. Barnard, Pekin.....	Silver medal
Agricultural Wreath:	
First premium, Amanda M. Moore, Springfield.....	2 00
Second premium, Mrs. H. B. Barnard, Pekin.....	1 00
Landscape in Moss:	
Premium, Mrs. Robert L. Perkins, Woodside.....	Silver medal
Ornamental Work, with Indellible Ornamenting Fluid:	
First premium, Mrs. M. A. Hillis, Dixon... ..	2 00
Collection of Articles above enumerated:	
Premium, Mrs. H. B. Barnard, Pekin.....	10 00
<i>Awarding Committee</i> —Wm. Braddock, Springfield; Wm. Pedrit, Warsaw; A. B. Judkins, pringfield; L. F. Mitchell, Bloomington.	

MEETINGS DURING THE FAT STOCK SHOW.

EXPOSITION BUILDING,
CHICAGO, November 11, 1879. }
TUESDAY, 10:30 A. M. }

Board met on call of the President.

Present: President Scott, Vice-Presidents Ellsworth, Emery, Moore, Dysart, Vittum, Douglas, Beaty, Voorhies, Stookey, Washburn and Landrigan.

Motion of Mr. Beaty, carried—

That superintendents of classes A, C and D be authorized to select committees on measurement for their respective departments.

Motion of Mr. Dysart, carried—

That superintendents of departments be authorized to change regular committeemen at their discretion.

Motion of Mr. Beaty, carried—

That the award of grand sweepstakes prize be made in the usual way with a committee of not less than five.

On motion of Mr. Stookey,

Board adjourned subject to call of the President.

EXPOSITION BUILDING,
CHICAGO, November 13, 1879. }
THURSDAY, 3 o'clock p. m. }

Board met on call of the President.

Present: President Scott, Vice-Presidents Ellsworth, Moore, Dysart, Cobb, Vittum, Douglas, Beaty, Smith, Pullen, Stookey.

Motion of Mr. Smith, carried—

That the General Superintendent be authorized to make the necessary arrangements for slaughtering the animals entered for the premium offered for dressed bullocks, and to obtain permit from the city Board of Health.

Motion of Mr. Dysart, carried—

That a premium of a silver medal be awarded to the animal showing the greatest average gain per day since birth, in the rings for one and two year old steers.

Motion of Mr. Smith, carried—

That the cattle competing for the premium offered for the "Heaviest Fat Steer," be placed in the hands of the Superintendent of the Cattle Department at eight o'clock p. m. Friday and weighed at eight o'clock a. m. Saturday following.

On motion of Mr. Ellsworth,

The Board adjourned, subject to call of the President.

EXPOSITION BUILDING,
CHICAGO, November 14, 1879. }
FRIDAY, 10 o'clock A. M. }

Board met on call of the President.

Present: President Scott, Vice-Presidents Ellsworth, Emery, Reynolds, Moore, Dysart, Vittum, Douglas, Beaty, Smith, Vorhies, Stookey, Washburn and Landrigan.

Mr. Smith called to the chair.

Motion of Mr. Washburn, carried—

That Assistant Superintendents be allowed \$3 per day traveling expenses and hotel bills during time of service at the Fat Stock Show.

Mr. Washburn asked to be excused from further attendance of the meetings of the Board during the Fat Stock Show.

Motion of Mr. Beaty, carried—

That Mr. Washburn be granted leave of absence.

Motion of Mr. Scott, carried—

That the Secretary issue checks for premiums at 2 o'clock p. m. Saturday.

Mr. Scott in the chair.

A communication was received from T. L. Miller, of Beecher, Illinois, proposing to slaughter certain animals in competition with animals awarded premiums at the Fat Stock Show.

Motion of Mr. Reynolds, carried—

That the letter be returned to Mr. Miller, by the Secretary with the information that it is not deemed advisable to depart from the published programme at this late date.

Motion of Mr. Smith, carried—

That a premium of a silver medal be awarded to the animal showing the greatest average gain per day since birth, in the rings for three and four year old steers.

Motion of Mr. Dysart, carried—

That the committees on measurements be allowed \$3 00 per day and hotel bills, while on duty.

Mr. Stookey asked to be excused from further attendance of the meetings of the Board during the Fat Stock Show.

Motion of Mr. Dysart, carried—

That Mr. Stookey be granted leave of absence.

Mr. Reynolds introduced the following resolution, which was adopted:

Resolved, That the dispatch announcing the death of George E. Haskell, son of Hon. George S. Haskell, a member of this Board, has been received with profound sorrow.

Resolved, That the Secretary be and is hereby instructed to assure our esteemed co-worker and his family of the heartfelt sympathy of the members of this Board in their great bereavement.

On motion of Mr. Ellsworth,

The Board adjourned subject to call of the President.

J. R. SCOTT,
President.

S. D. FISHER,
Secretary.

REPORT
OF THE
SECOND ANNUAL
FAT STOCK SHOW

HELD BY THE
Illinois State Board of Agriculture,

IN THE
EXPOSITION BUILDING, CHICAGO

NOVEMBER 10-15, 1879.



EXHIBITERS.

CLASS A—CATTLE.

(The figures denote the entries of each exhibitor.)

SHORTHORNS (23 head).

Browns, J. N., Sons, Berlin, Ill	8, 9, 11, 12, 13, 14, 15
Brownlie, R. K. & A. S., Long Grove, Iowa.....	18
Curtis, Dexter, Madison, Wis	16, 17
Graves, J. H., Chilesburg, Ky	3, 7
Gordon, W. F., Liberty, Mo.....	21, 22
Moore, A. F., Polo, Ill.....	10
Prather, S. E., Sherman, Ill.....	19, 20
Penfield, W. W., Penfield, Ohio	1, 6
Sherman, John, Chicago, Ill.....	2
Wing & Thompson, Bement, Ill.....	4, 5, 23

HEREFORDS (12 head).

Clark, Thomas, Beecher, Ill.....	26, 28, 35
Miller, T. L., Beecher, Ill.....	27, 29, 30, 31, 32, 33, 34
Sherman, John, Chicago, Ill.....	24, 25

DEVON (4 head).

Gansel, Bruno, Hyde Park, Ill.....	39
Ross, L. F., Avon, Ill	36, 37, 38

GRADES OR CROSSES (95 head).

Gillett, J. D., Elkhart.....	45, 46, 47, 48, 49, 50, 55, 57, 59, 71, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128.
Graves, J. H., Chilesburg, Ky.....	51, 53, 59, 100
Gray, George, Rushville, Ind.....	53, 54
Hunt, T. W., Ashton, Ill.....	61, 63, 66, 87, 88
Lequette, J., Illinois City	56
Miller, T. L., Beecher, Ill.....	52, 60, 62, 64, 66, 68, 70, 72, 130
Moore, A. F., Polo, Ill	101, 102, 103, 104, 105, 106, 129, 131, 132, 133, 134
Ross, L. F., Avon, Ill.....	57, 59
Sherman, John, Chicago, Ill.....	40, 41, 42, 43, 44, 55
Wing & Thompson, Bement, Ill.....	74

CLASS C.—SHEEP.

COTSWOLD. (44 head).

Brown, J. A. & Son, Decatur, Ill.....	135, 136, 144
Hood, George, Guelph, Canada.....	141, 145, 146, 147, 151, 155, 156, 162, 163, 166, 167, 180
Miller, T. L., Beecher, Ill	138, 142, 143, 152, 153, 164, 165, 178, 179
Moffatt, Wm. & Bro., Paw Paw Grove, Ill.....	148, 149, 150, 151
Pickrell, George, Wheatfield, Ill.....	137
Strawn, Abner, Ottawa, Ill.....	158, 159, 160, 161, 168, 169, 170, 171, 172, 173, 174, 175, 176
Wilson, Frank, Jackson, Mich.....	157, 181

LEICESTER. (3 head.)

Cary, George, Rochelle, Ill.....	177
Hood, George, Guelph, Canada.....	139, 140

SOUTHDOWN. (32 head.)

Cary, George, Rochelle, Ill.....	183, 184, 185, 196, 197, 208
Gosling, John, Rockford, Ill.....	182
Hood, George, Guelph, Canada.....	191, 192, 203, 214, 217, 218, 219
Pickrell, George, Wheatfield, Ill.....	186, 187, 188, 189, 190, 198, 199, 200, 201, 202, 204, 205
	210, 211, 212, 213
Teepie, Luke, Belvidere, Ill.....	207

OXFORDDOWN.

Wilson, Frank, Jackson, Mich.....	193
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SHROPSHIREDOWN (6 head.)

Brown, J. A. & Son, Deatur, Ill.....	208
Cotton, James, Rockford, Ill.....	209, 218
Taylor Bros., Waynesville, Ill.....	195, 215
Wilson, Frank, Jackson, Mich.....	194

GRADES OR CROSSES (51 head.)

Cary, George, Rochelle, Ill.....	222, 224, 239, 240, 241, 250, 255, 256, 265, 269
Cotton, James, Rockford, Ill.....	225, 226
Fox, S. A., Waukesha, Wis.....	220, 238, 254, 264
Hood, George, Guelph, Canada.....	192, 232, 233, 234, 243, 249, 251, 260, 261, 262, 263, 266, 267, 268
Miller, T. L., Beecher, Ill.....	247
Pickrell, George, Wheatfield, Ill.....	221, 223, 227, 228, 229, 230, 231, 242, 243, 244, 245, 246
	257, 258, 259
Taylor Bros., Waynesville, Ill.....	237
Wilson Frank, Jackson, Mich.....	235, 236, 252, 253

CLASS D—SWINE.

BERKSHIRE (18 head)

Hewer Bros., Belvidere, Ill.....	292, 302, 303
Miller, T. L., Beecher, Ill.....	276, 289, 299, 300, 307, 308, 309, 310
Reed, George, Belvidere, Ill.....	277, 278, 279
Wilson, Frank, Jackson, Mich.....	290, 291, 311, 312

POLAND CHINA (24 head.)

Castle, H. C., Wilmington, Ill.....	274, 275, 285, 286, 287, 288, 297, 298, 306
Countryman, J. A., Rochelle, Ill.....	280, 281, 283, 304, 314
Howe, J. B., Seneca, Ill.....	283
McClung, W. W., Hennepin, Ill.....	301
Oliver, Fell & Miner, Toulon, Ill.....	274, 284
Orton, B. J., Cambridge, Ill.....	271, 272, 282, 295, 296, 305

SUFFOLK (2 head.)

Wilson, Frank, Jackson, Mich.....	324, 325
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ESSEX (11 head.)

Patten, J. A., Hennepin, Ill.....	313, 318
Taylor Bros., Waynesville, Ill.....	316, 317, 321
Wilson, Frank, Jackson, Mich.....	314, 315, 319, 320, 326, 327

GRADES OR CROSSES (13 head.)

Davis, Henry, Dyer, Ind.....	335
Hewer, Bros., Belvidere, Ill.....	328
Oliver, Fell & Miner, Toulon, Ill.....	330, 333
Orton, B. J., Cambridge, Ill.....	336
Scheidt & Davis, Dyer, Ind.....	322, 323, 329, 331, 332, 337
Taylor Bros., Waynesville, Ill.....	338
Wilson, Frank, Jackson, Mich.....	334

A

CLASS K—TEXTILE FABRICS.

E. H. BISHOP, *Superintendent.*

LOT 103—MILL FABRICS, ETC.

Display of Woolen Goods:	
Premium, Woolen Mills, Springfield	Diploma
Display of Blankets:	
Premium, Woolen Mills, Springfield	Diploma

LOT 104—HOUSEHOLD FABRICS—ALL WOOL.

10 Yards Flannel:		
First premium, Mrs. H. Whitlow, Greensburg, Ind.....		\$4 00
Pair Blankets:		
First premium, Mrs. S. Harlan, Greensburg, Ind.....	5 00	
Second premium, Mrs. J. Nearing, Kinney.....	3 00	
Display of Yarns:		
First premium, Mrs. J. Nearing, Kinney	3 00	
Pair Ladies' Stockings:		
First premium, Mrs. Elisha Primm, Athens	3 00	
Second premium, Mrs. Charlotte Page, Shelbyville.....	2 00	
Pair Mens' Socks:		
First premium, Mrs. Charlotte Page, Shelbyville	3 00	
Second premium, Mrs. Thos. B. Hall, Rochester.....	2 00	
Pair Mittens:		
First premium, Mrs. J. Ingles, Old Berlin	3 00	
Second premium, Mrs. R. H. Shultz, Monmouth	2 00	

MIXED WOOL AND COTTON.

Coverlet:		
First premium, Mrs. H. Whitlow, Greensburg, Ind.....	\$5 00	
Second premium, Mrs. Amanda M. Moore, Springfield	3 00	
10 Yards Linsey:		
First premium, Mrs. J. Nearing, Kinney	4 00	
10 Yards Carpet:		
First premium, Mrs. Elisha Primm, Athens.....	5 00	
Second premiums, Mrs. A. A. Landon, Wheaton	3 00	
10 Yards Rag Carpet:		
First premium, Mrs. L. Serrot, Rushville.	5 00	
Second premium, Mrs. L. M. Beecher, Springfield... ..	3 00	
Foot Mats made of Wool:		
First premium, Mrs. J. Nearing, Kinney.....	3 00	
Second premium, Mrs. Frank Woodruff, Joliet	2 00	
Foot Mats made of Rags:		
First premium, Mrs. A. Farr, Springfield.....	3 00	
Second premium, Mrs. A. Farr, Springfield.	2 00	
Carpet Warp, Spun by exhibiter:		
First premium, Mrs. J. Nearing, Kinney	2 00	
Hearth Rug, (wool):		
First premium, Mrs. J. Nearing, Kinney.....	3 00	
Second premium, Mrs. F. Peck, Jacksonville.....	2 00	
Hearth Rug, (rags):		
First premium, Mrs. F. Peck, Jacksonville	3 00	
Second premium, Miss Maud C. Hinsey, Pekin.	2 00	
Carriage Mat:		
First premium, Miss Maude C. Hinsey, Pekin	3 00	
Second premium, Mrs. Robt. L. Perkins, Woodside.....	2 00	

Awarding Committee—Mrs. L. H. Hite, East St. Louis; Mrs. R. Gilbert, Effingham; Mrs. W. C. Garrard, Baltimore, Md.

B

LOT 105—HAND SEWING.

Comprising Plain Garments.

Coarse Shirt, unbleached:	
First premium, Miss Joe Stacey, Jacksonville.....	\$3 00
Second premium, Mrs. Elisha Primm, Athens.....	2 00
Plain Night Dress:	
First premium, Mrs. J. Nearing, Kinney	3 00
Second premium, Mrs. R. H. Shultz, Monmouth....	2 00
Plain Chemise:	
First premium, Mrs. R. H. Shultz, Monmouth	3 00
Second premium, Miss Maude C. Hinsey, Pekin.....	2 00
Calico Dress:	
First premium, Mrs. H. Whitlow, Greensburg, Ind.....	3 00
Second premium, Mrs. J. D. Mehtens, Atlanta.....	2 00
Pair of Pants:	
First premium, Minerva Dodds, Pawnee	3 00
Second premium, Mrs. M. A. Hilles, Dixon... ..	2 00
Vest:	
First premium, Minerva Dodds, Pawnee	3 00
Second premium, Mrs. M. A. Hilles, Dixon.....	2 00
Boy's Suit:	
First premium, Mrs. R. H. Shultz, Monmouth	\$3 00
Second premium, Mrs. L. E. Franklin, Dixon	2 00
Darning and Repairing:	
First premium, Miss M. R. Housekeeper, Beardstown.....	3 00
Second premium, Miss Maude C. Hinsey, Pekin.....	2 00
Kitchen Apron:	
First premium, Mrs. J. F. Robinson, Atlanta.	2 00
Second premium, Mrs. R. H. Shultz, Monmouth.....	1 00
<i>Awarding Committee</i> —Mrs W. C. Garrard, Baltimore, Md.; Mrs. L. H. Hite, East St. Louis; Mrs. R. Gilbert, Effingham.	

LOT 106—ORNAMENTAL NEEDLE WORK.

Specimen Braiding:	
First premium, Mrs. H. Whitlow, Greensburg, Ind.....	\$4 00
Second premium, Mrs. Cellie Keene, Atlanta.. ..	2 00
Braided Pillow Case:	
First premium, Mrs. S. Harlan, Greensburg, Ind.....	3 00
Second premium, Mrs. W. N. Bryant, Petersburg.....	2 00
Hemstitching:	
First premium, Mrs. L. S. Correll, Springfield	4 00
Second premium, Mrs. R. H. Shultz, Monmouth.....	2 00
Silk Embroidery:	
First premium, Mrs. L. Beckwith, Delavan.....	4 00
Second premium, Miss Marie Helme, Springfield.....	2 00
Waxed Embroidery:	
First premium, Mrs. Libbie M. Thomas, Terre Haute.....	4 00
Second premium, Miss. C. A. Wilmes, Springfield.....	2 00
Cotton Embroidery:	
First premium, Mrs. C. G. Shultz, Monmouth... ..	2 00
Second premium, Mrs. S. Harlan, Greensburg, ind.....	1 00
Silver Embroidery:	
First premium, Mrs. W. E. Shutt, Springfield	4 00
Gold Embroidery:	
First premium, Mrs. C. M. Smith, Springfield.....	4 00
Second premium, Mrs. W. E. Shutt, Springfield.....	2 00
Linen Embroidery:	
First premium, A. & V. Harnsberger, Pleasant Plains.....	2 00
Second premium, Mrs. H. Whitlow, Greensburg, Ind.....	1 00
Embroidered Cover for Chair:	
First premium, R. A. Carnahan, Springfield.	4 00
Second premium, Mrs. Libbie M. Thomas, Terre Haute, Ind.....	2 00

C

Chair Cover, back and seat (wool):	
First premium, Miss K. J. Chatterton, Springfield.....	4 00
Second premium, Mrs. W. A. Turney, Springfield	2 00
Cover for Ottoman:	
First premium, Mrs. H. Withrow, Petersburg	4 00
Second premium, Miss Maude C. Hinsey, Pekin.....	2 00
Sofa Pillow:	
First premium, Miss Emma Cline, Jacksonville....	4 00
Second premium, Miss C. A. Wilmes, Springfield.	2 00
Chair Cushion:	
First premium, Miss Maude C. Hinsey, Pekin	4 00
Second premium, Mrs. W. A. Turney, Springfield	2 00
Carriage Afghan:	
First premium, Mrs. R. Butler, Clinton.....	8 00
Second premium, Miss Maggie Harris, Anna	4 00
Infant's Afghan:	
First premium, Mrs. R. Butler, Clinton.....	4 00
Second premium, Mrs. L. Beckwith, Delavan	2 00
Infant Robe:	
First premium, Mrs. W. A. Turney, Springfield ..	\$4 00
Second premium, W. J. Ellinwood, Chicago	2 00
Toilet Set, Embroidered:	
First premium, Mrs. E. Darwin, Springfield.	3 00
Second premium, Miss Carrie Cullom Springfield.....	2 00
Infant Skirt, Embroidered:	
First premium, Miss M. R. Housekeeper, Beardstown ..	3 00
Second premium, Mrs. Libbie M. Thomas, Terre Haute, Ind ..	2 00
Worsted Tapestry Work:	
First premium, Mrs. L. S. Correll, Springfield.....	3 00
Second premium, Miss Maude C. Hinsey, Pekin	2 00
Japanese Tidy:	
First premium, Miss Kate J. Chatterton, Springfield ..	2 00
Second premium, Miss Kate J. Chatterton, Springfield.....	1 00
Embroidered Lace Tidy:	
First premium, Mrs. R. H. Shultz, Monmouth ..	3 00
Second premium, Mrs. L. S. Correll, Springfield.....	2 00
Embroidered Silk Tidy:	
First premium, Miss M. R. Housekeeper, Beardstown	3 00
Second premium, Miss Joe Stacey, Jacksonville ..	2 00
Needle Book:	
First premium, Mrs. Libbie M. Thomas, Terre Haute, Ind	2 00
Second premium, Mrs. E. M. Withrow, Springfield	1 00
Worsted Tapestry Picture:	
First premium, Mrs. C. M. Smith, Springfield.....	3 00
Second premium, Miss Emma Metzger, Springfield.....	2 00
Bead Embroidery:	
First premium, H. L. Bush, Downer's Grove ..	4 00
Second premium, Mrs. N. E. Taylor, Jacksonville.....	2 00
Stamping for Embroidery:	
First premium, Miss C. A. Wilmes, Springfield.	2 00
Second premium, Mrs. Libbie M. Thomas, Terre Haute, Ind.....	1 00
Specimen Guipure Lace:	
First premium, Mrs. H. Whitlow, Greensburg, Ind.....	2 00
Second premium, Mrs. Fred. Fisher, Springfield.....	1 00
Embroidered Pillow Case:	
First Premium, Mrs. J. N. Conkling, Springfield	3 00
Second premium, Miss Maude C. Hinsey, Pekin ..	2 60

WORK DONE ON MACHINE.

Specimen Tucking:	
First premium, Mrs. S. Harlan, Greensburg, Ind	2 00
Second premium, Mrs. J. F. Robinson, Atlanta.....	1 00
Specimen Braiding:	
First premium, Mrs. J. F. Robinson, Atlanta.....	2 00
Second premium, Mrs. H. Whitlow, Greensburg, Ind.....	1 00

D

Specimen Quilting:	
First premium, Mrs. H. Whitlow, Greensburg, Ind.....	2 00
Second Premium, Mrs. S. Harlan, Greensburg, Ind.....	1 00
<i>Awarding Committee—Mrs. R. Gilbert, Effingham; Mrs. W. C. Garrard, Baltimore, Md.; Mrs. L. H. White, East St. Louis.</i>	

LOT 107—FANCY WORK.

Lace Work:	
First premium, Mrs. Fred. Fisher, Springfield	\$3 00
Second premium, Miss Maude C. Hinsey, Pekin.....	2 00
Drawing on Canvass:	
First premium, Miss M. L. Fowler, Springfield.....	3 00
Lamp Mat:	
First premium, Mrs. R. Rowett, Carlinville ..	2 00
Second premium, Miss Mary Wyatt, Jacksonville....	1 00
Watch Case:	
First premium, Mrs. J. H. Shuckhart, Springfield.....	2 00
Second premium, Miss Annie Archer, Pittsfield.....	1 00
Slipper Case:	
First premium, Mrs. L. Beckwith, Delavan.....	2 00
Second premium, E. A. Lee, Springfield.....	1 00
Card Receiver:	
First premium, Mrs. J. Nearing, Kinney.....	2 00
Needle Case:	
First premium, Mrs. L. S. Correll, Springfield	2 00
Second premium, Mrs. E. M. Withrow, Springfield.....	1 00
Comb Case:	
First premium, Mrs. M. A. Hillis, Dixon.....	2 00
Second premium, Mrs. L. Beckwith, Delavan.....	1 00
Tidy in Wool:	
First premium, Mrs. C. G. Shultz, Monmouth	3 00
Second premium, Mrs. B. C. Randall, Ashland.....	2 00
Tidy in Cotton:	
First premium, H. L. Bush, Downer's Grove	3 00
Second premium, Miss Hannah M. Heading, Peoria	2 00
Crochet Work in Worsted:	
First premium, Miss Ollie Bishop, Petersburg.....	2 00
Second premium, Mrs. R. Butler, Clinton.....	1 00
Crochet Work in Cotton:	
First premium, Miss Hannah M. Heading, Peoria.....	2 00
Second premium, Miss Maude C. Hinsey, Pekin.....	1 00
Crochet Work in Linen:	
First premium, Mrs. J. Nearing, Kinsey	2 00
Crochet Work in Silk:	
First premium, Mrs. R. H. Shultz, Monmouth	2 00
Sample Netting:	
First premium, Miss Mary Wyatt, Jacksonville.....	2 00
Second premium, Mrs. L. C. Stewart, Jacksonville	1 00
Pin Cushion:	
First premium, Miss C. A. Wilmes, Springfield	2 00
Second premium, Miss Emma Burkhart, Springfield.....	1 00
Toilet Cushion:	
First premium, Mrs. C. H. Woodruff, Girard	2 00
Second premium, Miss. Maude C. Hinsey, Pekin.....	1 00
Work Basket:	
First premium, Miss Maude C. Hinsey, Pekin ..	2 00
Second premium, Mrs. J. H. Shuckhart, Springfield.....	1 00
Infant Basket:	
First premium, Miss Eliza Epler, Farmingdale	2 00
Rag Basket:	
First premium, Miss Ida Shamel, Springfield.....	2 00
Card Basket:	
First premium, Mrs. M. A. Hillis, Dixon	2 00
Second premium, Mrs. C. H. Woodruff, Girard.....	1 00

E

Scrap Basket:	
First premium, Mrs. L. C. Stewart, Jacksonville ..	2 00
Second premium, Mrs. A. J. Atwood, Pecatonica.....	1 00
Wash-stand Set:	
First premium, Mrs. Cellie Keene, Atlanta	2 00
Second premium, Mrs. R. H. Shultz, Monmouth.....	1 00
Air Castle:	
First premium, Mrs. Amanda M. Moore, Springfield....	2 00
Second premium, Miss Ida Schamel, Springfield . . .	1 00
<i>Awarding Committee—Mrs. R. Gilbert, Effingham; Mrs. W. C. Garrard, Baltimore, Md.; Mrs. L. H. Hite, East St. Louis.</i>	

LOT 108—NEEDLE WORK.

By Girl Under 13 Years of Age.

Plain Sewing:	
First premium, Lou Keene, Atlanta.....	\$2 00
Second premium, Ella Greenfield, Greensburg, Ind	1 00
Fine Shirt, unwashed:	
First premium, Joe Stacey, Jacksonville	2 00
Second premium, Elva A. Nearing, Kinney.....	1 00
Coarse Shirt, unbleached:	
First premium, Lou Keene, Atlanta	2 00
Second premium, Elva A. Nearing, Kinney.....	1 00
Plain Chemise:	
First premium, Joe Stacey, Jacksonville.....	2 00
Second premium, Carrie B. Nance, Petersburg	1 00
Hand-made Calico Dress:	
First premium, Lou Keene, Atlanta ...	2 00
Second premium, Lottie Shultz, Monmouth.....	1 00
Patch-Work Quilt:	
First premium, Emeline Burns, Wabash, Ind.....	2 00
Second premium, Bessie Ida Reynolds, Cantrall.....	1 00
Darning and Repairing:	
First premium, Lou Keene Atlanta	\$2 00
Second premium, Glodie Barnard, Pekin.....	1 00
Braiding:	
First premium, Alva A. Nearing, Kinney.....	2 00
Second premium, Lottie Shultz, Monmouth.....	1 00

FANCY WORK.

Tidy in Wool:	
First premium, Belle Taggart, Decatur.....	2 00
Second premium, L. C. Stewart, Jacksonville.....	1 00
Tidy in Cotton:	
First premium, Ida Davenport, Springfield....	2 00
Second premium, Grace McDonald, Jacksonville	1 00
Fancy Netting:	
First premium, Lou Keene, Atlanta	2 00
Second premium, Hattie Porter, Clinton	1 00
Tatting:	
First premium, Elva A. Nearing, Kinney	2 00
Second premium, Dora Bennett, Springfield	1 00
Silk Embroidery:	
First premium, Lou Keene, Atlanta	2 00
Second premium, Lottie Shultz, Monmouth.....	1 00
Cotton Embroidery:	
First premium, Lou Keene, Atlanta.....	2 00
Second premium, Ella Greenfield, Greensburg, Ind ..	1 00
Worsted Tapestry:	
First premium, R. H. Shultz, Monmouth.....	2 00
Second premium, Jennie Taylor, Jacksonville . . .	1 00
Crochet Work:	
First premium, Elva A. Nearing, Kinney.....	2 00
Second premium, Lou Keene, Atlanta	1 00

F

Card Board Work:	
First premium, Elva A. Nearing, Kinney.....	2 00
Second premium, Eva M. Landon, DuPage Co.....	1 00
Lamp Mat:	
First premium, L. C. Stewart, Jacksonville ..	2 00
Second premium, Elva A. Nearing, Kinney.....	1 00
Toilet Set, Embroidered:	
First premium, Lou Keene, Atlanta ..	2 00
Second premium, Elva A. Nearing, Kinney.....	1 00
Needle Case:	
First premium, Lottie Shultz, Monmouth	2 00
Second premium, Ella Greenfield, Greensburg, Ind.....	1 00
Comb case:	
First premium, Iva Robinson, Atlanta.	2 00
Second premium, Lottie Shultz, Monmouth....	1 00
Button String:	
First premium, Grace McDonald, Jacksonville ..	2 00
Second premium, Eva M. Landon, DuPage Co.....	1 00

KNITTING WORK.

Pair men's Socks:	
First premium, Lottie Shultz, Monmouth.....	2 00
Second premium, Ruby Hillis, Dixon	1 00
Pair Ladie's Stockings:	
First premium, Hattie Porter, Clinton	2 00
Second premium, Elva A. Nearing, Kinney ..	1 00
Pair Mittens:	
First premium, Lou Keene, Atlanta	2 00
Second premium, Lottie Shultz, Monmouth ..	1 00
Pair Gloves:	
First premium, Lou Keene, Atlanta	2 00
Second premium, Lottie Shultz, Monmouth ..	1 00
Scarf:	
First premium, Lottie Shultz, Monmouth	2 00
Second premium, Hattie Mehrtens, Atlanta	1 00
Hearth Rug:	
First premium, J. O. Lord, Jacksonville	2 00
Second premium, J. O. Lord, Jacksonville....	1 00
Awarding Committee —Mrs. W. C. Garrard, Baltimore, Md.; Mrs. L. H. Hite, East St. Louis; Mrs. R. Gilbert, Effingham.	

LOT 109—QUILTS AND NEEDLE WORK.

Patchwork Calico Quilt:	
First premium, Emeline Burns, Wabash, Ind.	\$4 00
Second premium, Mrs. R. H. Shultz, Monmouth	2 00
Patchwork Cloth Quilt:	
First premium, Mrs. C. M. Smith, Springfield.....	4 00
Second premium, Mrs. J. H. Williams, Carlinville	2 00
Patchwork Silk Quilt:	
First premium, Mrs. R. H. Shultz, Monmouth	8 00
Second premium, W. J. Ellinwood, Chicago	4 00
White Quilt, sold on muslin:	
First premium, Mrs. S. Harlan, Greensburg, Ind.....	4 00
Second premium, Emeline Burns, Puckerbush, Ind.....	2 00
Worsted Quilt:	
First premium, Mrs. Libbie M. Thomas, Terre Haute, Ind.....	4 00
Second premium, Mrs. J. H. Williams, Carlinville....	2 00
Domestic Counterpane:	
First premium Mrs. H. Whitlow, Greensburg, Ind	4 00
Second premium, Mrs. J. B. Simmons, Springfield....	2 00
Crochet Counterpane:	
First premium, Miss Elva A. Nearing, Kinney	4 00
Second premium, Mrs. E. H. Shultz, Monmouth.....	2 00
Knit Counterpane:	
First premium, Mrs. A. Whalen, Pleasant Plains ..	4 00
Second premium, Mrs. E. Primm, Athens	2 00
Fine Night Dress:	
First premium, A. & F. Harnsberger, Pleasant Plains....	3 00
Second premium, Miss Annie Boyd, Springfield	2 00

Fine Skirt:	
First premium, Mollie Garland, Springfield.....	3 00
Second premium, Annie Boyd, Springfield.....	2 00

Fine Chemise:	
First premium, Miss Cellie Keene, Atlanta	3 00
Second premium, Mollie Garland, Springfield	2 00

Awarding Committee—Mrs. R. Gilbert, Effingham; Mrs. L. H. Hite, East St. Louis; Mrs. W. C. Garrard, Baltimore, Md.

CLASS L—NATURAL HISTORY.

JOHN P. REYNOLDS, *Superintendent*.

LOT 110—TAXIDERMY, MINEROLOGY AND CONCHOLOGY.

Collection of Minerals and Fossils:	
First premium, A. W. French, Springfield	\$50 00
Second premium, Mrs. B. M. Griffith, Springfield ..	20 00

Collection Illinois Birds and Mammals of not less than 50 species, to be shown by the taxidermist:	
First premium, Chas. K. Worthen, Warsaw.....	40 00
Second premium, J. Kirk Keller, Chatham	20 00

Awarding Committee—Wm. Braddock, Springfield; Wm. Piedrit, Warsaw; A. B. Judkins, Springfield.

LOT 111—ENTOMOLOGY, ETC.

Collection of Insects:	
First premium, Wm. Braddock, Springfield	\$30 00
Second premium, F. M. Bauder, New Milford	15 00

Collection of the Woods of Illinois, not less than 75 varieties:	
First premium, Albert S. Waun, Rockford.....	20 00
Second premium, Mrs. W. E. Shutt, Springfield...	10 00

Awarding Committee—T. F. Mitchell, Bloomington; W. Piedrit, Warsaw; A. B. Judkins, Springfield.

CLASS M—MILITARY—FOR INFANTRY COMPANIES.

D. B. GILLHAM, *Superintendent*.

LOT 112—PRIZE DRILL.

First premium, Co. A, 15th Battalion I. N. G., Alton ..	\$400 00
Second premium, Co. B, 3d Regiment I. N. G., Rockford.....	300 00
Third premium, Co. G, 7th Regiment I. N. G., Pekin.....	200 00

Awarding Committee—Lieut. J. A. Rodman, U. S. A., Rock Island; Lt.-Col. J. F. McNeill, Springfield; Major G. S. Dana, Springfield.

CLASS N—EDUCATIONAL EXHIBIT.

LOT 113—(a) —HIGH SCHOOL.

Best set of not less than three papers in each of the following: 1st—Language, (both translation and composition). 2d—Mathematics, (Algebra or Geometry). 3d—Natural Sciences, (Botany, Natural Philosophy, Physiology or Zoology):

First premium, High School, Lake View	Diploma and \$15 00
Second premium, High School, Decatur	10 00

Best set of not less than three papers in Language, (both translation and composition):

First premium, High School, Mendota	Diploma and \$10 00
Second premium, High School, Avon.....	5 00

Best set of not less than three papers in Mathematics, Algebra or Geometry:

First premium, High School, Lake View	Diploma and \$10 00
Second premium, High School, Galesburg	5 00

H

Best set of not less than three papers in Natural Sciences, Botany, Natural Philosophy, Physiology or Zoology:
 First premium, High School, Lake View... .. Diploma and \$10 00
 Second premium, High School, Decatur..... 5 00
Awarding Committee—S. A. Forbes, Normal; E. J. James, Normal.

LOT 114—(b)—GRADED SCHOOL.

PRIMARY SCHOOLS.

Best set of not less than five papers in each of the following: 1. Spelling, fifteen words.
 2. Penmanship, four lines, written with pen or pencil. 3. Arithmetic:
 First premium, Third Ward School, Springfield Diploma and \$15 00
 Second premium, First Ward School, Springfield.... 5 00
 Best set of not less than five papers in Penmanship:
 Premium, Third Ward School, Springfield Diploma and 5 00

INTERMEDIATE SCHOOLS.

Best set of not less than five papers in each of the following: 1. Spelling, twenty-five words. 2. Penmanship, ten lines. 3. Arithmetic.
 First premium, Fourth Ward School, Springfield Diploma and \$15 00
 Second premium, Second Ward School, Springfield 10 00
 Best set of not less than five Arithmetic papers:
 Premium, Third Ward School, Springfield Diploma and \$5 00

GRAMMAR SCHOOLS.

Best set of not less than five papers in each of the following: 1. Drawing. 2. Grammar.
 3. Geography:
 First premium, Second Ward School, Springfield. Diploma and \$15 00
 Second premium, Fourth Ward School, Springfield..... 10 00
 Best set of not less than five papers in Geography:
 Premium, Grammar School, Peatonica..... Diploma and 5 00
Awarding Committee.—Clay Willockson, Petersburg; Wm. Keady, Kankakee; Mrs. Lulu Rockwell, Taylorville.

LOT 115—(c)—RURAL DISTRICT SCHOOL.

Best set of not less than three papers in each of the following: 1st—Spelling, 20 words.
 2d—Language. 3d—Letter-writing. 4th—Arithmetic, through Percentage:
 First Premium, Red Town school Diploma and \$15 00
 Second premium, District No. 4 school, Galesburg township 10 00
 Best set of not less than three papers in Spelling, twenty words:
 Premium, District No. 8. school, New Milford..... Diploma and 10 00
 Best set of not less than three papers in Language:
 Premium, District No. 3 school, Cedar township Diploma and 10 00
 Best set of not less than three papers in Letter-writing:
 Premium, District No. 4 school, Galesburg township Diploma and 10 00
 Best set of not less than three papers in Arithmetic, through Percentage:
 Premium, District No. 3 school, Cedar township..... Diploma and 10 00
 Best set of not less than three papers in Botany, Natural Philosophy, Physiology or Zoology:
 Premium, District No. 3 school, Cedar township Diploma and 10 00
Awarding Committee—S. A. Forbes, Normal; E. J. James, Normal.

LOT 116—(d)—SWEEPSTAKES.

OPEN TO ALL SCHOOLS.

Best set of not less than three Drawing papers:
 Premium, Third Ward school, Springfield Diploma and \$20 00
 Best set of not less than three papers in United States History:
 Premium, Third Ward school, Springfield..... Diploma and 20 00
 Best set of not less than three papers (full pages each) in Penmanship:
 Premium, Second Ward school, Springfield. Diploma and 20 00
Awarding Committee—S. A. Forbes, Normal; E. J. James, Normal.

AWARDING COMMITTEES.

CLASS A—CATTLE.

LOT 1—SHORTHORNS.

Name.	Residence.	State.
J. I. Calder.	Cedar Rapids.	Iowa.
Leo Dryfus.	Lafayette.	Indiana.
Wm. Stocking.	Rochelle.	Illinois.

LOT 2—HEREFORDS.

John Webb.	Lexington.	Kentucky.
A. Knoreschild.	Oregon.	Illinois.
Wm. King.	Naperville.	Illinois.

LOT 3—DEVONS.

H. A. Heineman.	Belleville.	Illinois.
Wm. King.	Naperville.	Illinois.
John Webb.	Lexington.	Kentucky.

LOT 4—OTHER PURE BREEDS.

(No entries.)

LOT 5—GRADES OR CROSSES.

Wm. King.	Naperville.	Illinois.
John Webb.	Lexington.	Kentucky.
H. A. Heineman.	Belleville.	Illinois.

LOT 6—SWEEPSTAKES.

John Ruegamer.	Dubuque.	Iowa.
E. Kuhn.	Alton.	Illinois.
A. Knoreschild.	Oregon.	Illinois.

LOT 7—GRAND SWEEPSTAKES.

J. G. Imboden.	Decatur.	Illinois.
John Webb.	Lexington.	Kentucky.
J. Dallenbach.	Champaign.	Illinois.
John Ruegamer.	Dubuque.	Iowa.
Wm. Stocking.	Rochelle.	Illinois.

LOT 8—CAR LOADS.

John Webb.	Lexington.	Kentucky.
Wm. King.	Naperville.	Illinois.
A. Knoreschild.	Oregon.	Illinois.

LOT 9—DRESSED BULLOCKS.

T. Dallenbach.	Champaign.	Illinois.
H. A. Heineman.	Belleville.	Illinois.
A. Knoreschild.	Oregon.	Illinois.

CLASS C—SHEEP.

LOT 12—LONG WOOLS.

J. I. Calder.....	Cedar Rapids.....	Iowa
D. S. Irons.....	St. Louis.....	Missouri
Joseph Krushke.....	Canton.....	Illinois

LOT 13—MIDDLE WOOLS.

(No entries.)

LOT 14—GRADES OR CROSSES.

D. S. Irons.....	St. Louis.....	Missouri
Joseph Krushke.....	Canton.....	Illinois
J. I. Calder.....	Cedar Rapids.....	Iowa

LOT 15—SWEEPSTAKES.

J. Dallenbach.....	Champaign.....	Illinois
H. A. Heineman.....	Belleville.....	Illinois
A. Knoreschild.....	Oregon.....	Illinois

LOT 16—GRAND SWEEPSTAKES

John Adams.....	Chicago.....	Illinois
John Webb.....	Lexington.....	Kentucky
P. W. Slaughter.....	Canton.....	Illinois

LOT 17—CAR LOADS.

John Ruegamer.....	Dubuque.....	Iowa
Wm. Stocking.....	Rochelle.....	Illinois
John Adams.....	Chicago.....	Illinois
Edward Kuhn.....	Alton.....	Illinois
J. G. Imboden.....	Decatur.....	Illinois

CLASS D—SWINE.

LOT 18—LARGE BREEDS, POLAND, CHINA, BERKSHIRE, CHESTER WHITE.

Wm. Stocking.....	Rochelle.....	Illinois
L. Dryfus.....	Lafayette.....	Indiana
E. Kuhn.....	Alton.....	Illinois
D. S. Irons.....	St. Louis.....	Missouri
H. A. Heineman.....	Belleville.....	Illinois

LOT 19—SMALL BREEDS, SUFFOLKS, ESSEX, SHORT FACED LANCASHIRE.

D. S. Irons.....	St. Louis.....	Missouri
H. A. Heineman.....	Belleville.....	Illinois
Wm. Stocking.....	Rochelle.....	Illinois

LOT 20—GRADES OR CROSSES.

H. A. Heineman.....	Belleville.....	Illinois
W. E. Stocking.....	Rochelle.....	Illinois
D. S. Irons.....	St. Louis.....	Missouri

LOT 21—SWEEPSTAKES.

J. I. Calder.....	Cedar Rapids.....	Iowa
Wm. King.....	Naperville.....	Illinois
Joseph Krushke.....	Canton.....	Illinois

LOT 22—GRAND SWEEPSTAKES.

Wm. King.....	Naperville.....	Illinois.
J. I. Calder.....	Cedar Rapids.....	Iowa.
Joseph Krischke.....	Canton.....	Illinois.

LOT 23—CAR LOADS.

Jos. Kruschke.....	Canton.....	Illinois.
Wm. King.....	Naperville.....	Illinois.
J. I. Calder.....	Cedar Rapids.....	Iowa.

CLASS E—POULTRY.

Alonzo Snider.....	Chicago.....	Illinois.
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CLASS G—DAIRY.

BUTTER:

S. B. Davis.....
Geo. K. Tompkins.....
A. H. Barber.....

CHEESE:

Wm. W. Dexter.....	Chicago.....	Illinois.
Andrew Albro.....	.....	.....
L. E. Fitts.....	.....	.....

COMMITTEE ON MEASUREMENTS.

CLASS A—CATTLE.

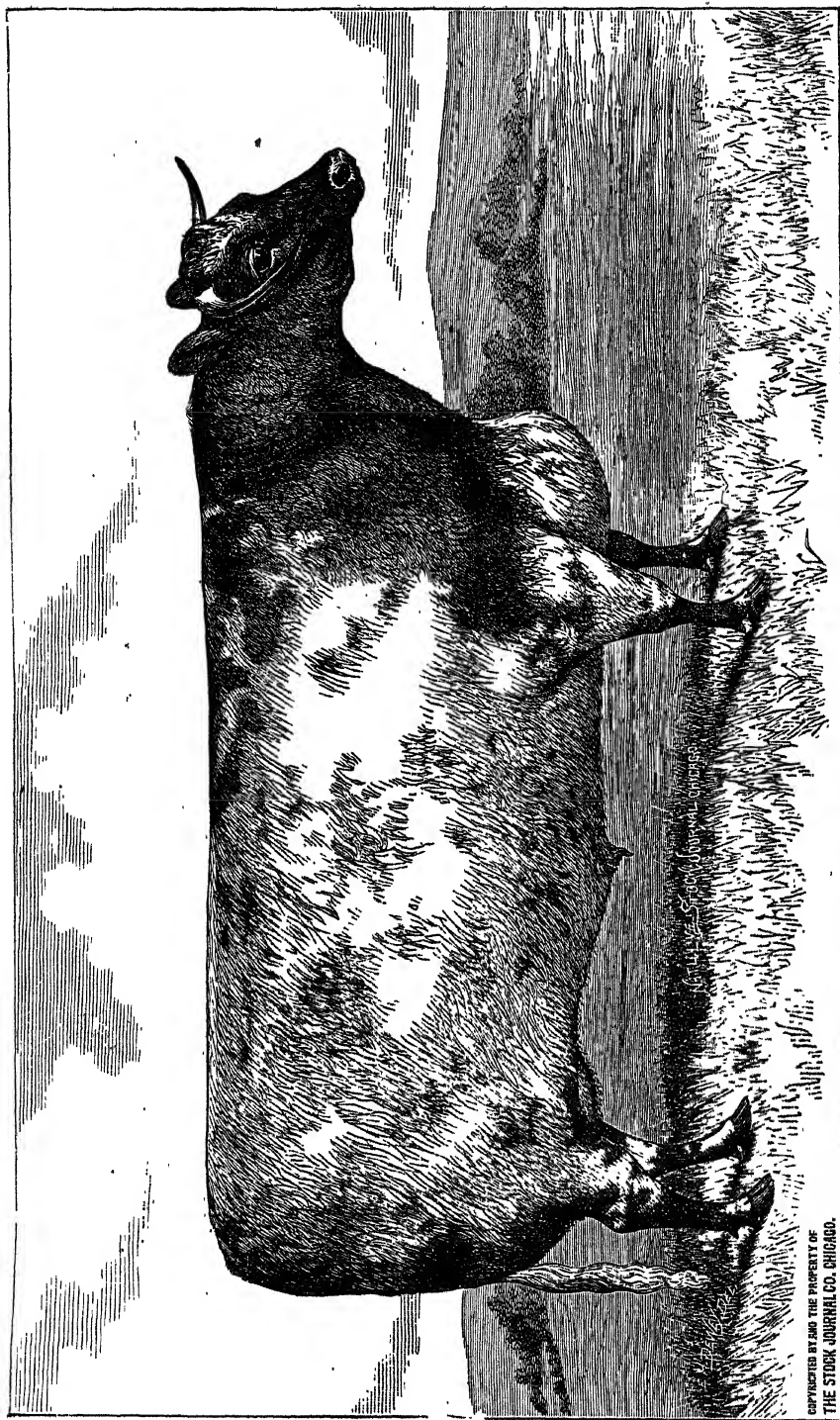
D. M. Moninger.....	Albion.....	Iowa.
D. H. Gardner.....	Farmer City.....	Illinois.
W. W. Beasley.....	St. Louis.....	Missouri.

CLASS C—SHEEP.

J. H. Ross.....	Avon.....	Illinois.
E. S. Cunningham.....	Thompson Station.....	Kentucky.
P. B. Small.....	Canton.....	Illinois.

CLASS D—SWINE.

P. W. Slaughter.....	Canton.....	Illinois.
W. B. Nutter.....	Polo.....	Illinois.
R. K. Brownlie.....	Long Point.....	Iowa.



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THE STOCK JOURNAL CO. CHICAGO.

SHORT HORN STEER 'NICHOLS.'—Exhibited by J. H. Graves, Chilesburg, Ky. Awarded Grand Sweepstakes Prize, Fat Stock Show 1872.

BREEDING OF ANIMALS EXHIBITED.

CLASS A—CATTLE.

SAMUEL DYSART, *Superintendent.*

LOT 1—SHORT HORNS—THOROUGHRED.

Steers four years old or over—5 entries:

1. Dick, bred and exhibited by W. W. Penfield, Penfield, Ohio. Dropped April 15, 1874. Sire, Royal Baron 15967; dam, Lofty 3d, by Monitor 5020.
2. Sam, bred and exhibited by W. W. Penfield, Penfield, Ohio. Dropped Dec. 15, 1873. Sire, Baron 5343; dam, Frosty, by Marshall Ney, 3129.
3. VanMeter, exhibited by J. H. Graves, Chilesburg, Ky. Bred by B. F. VanMeter, Winchester, Ky. Dropped July 15, 1874. Sire, Rosy Buck; dam, Rosette.
4. Patron, exhibited by Wing & Thompson, Bement, bred by L. B. Wing, Bement. Dropped June 30, 1875. Sire, Aristocrat, 7509; dam, Morning Star.
5. Wm. Allen, exhibited by Wing & Thompson, Bement, bred by L. B. Wing, Bement. Dropped July 15, 1875. Sire, Aristocrat, 7509; dam, Lady Piatt.

Steers three and under four years old—5 entries:

- * 6. Eddie Morris, exhibited by John Sherman, Chicago, bred by H. C. Nelson, Canton. Dropped April 8, 1876. Sire, the Cardinal, 18430; dam, Vanassa.
7. Nichols, exhibited by J. H. Graves, Chilesburg, Ky. Bred by C. B. Nichols, Clintonville, Ky. Dropped March 15, 1876. Sire, Young Mary, shorthorn Bull; dam, Seventeen Short Horn Cow.

Steer two and under three years—3 entries:

8. John Clay Jr. bred and exhibited by J. N. Brown's Sons, Berlin. Dropped July 18, 1877. Sire, Summit Airdrie 12997; dam, Bride of Grove Park, pg. 498. Vol. 13.
9. Romeo, bred and exhibited by J. N. Brown's Sons, Berlin. Dropped August 18, 1877. Sire, Summit Airdrie 12997; dam, Duchess 2d. Vol. 9, pg. 562.
10. Rowland, bred and exhibited by A. F. Moore, Polo. Dropped April 1st, 1877. Sire, Nelson Rowland 27324; dam, Mary 7th. Vol. 12, page 212.

Steer one and under two years—5 entries:

11. Gaylord, bred and exhibited by J. N. Brown's Sons, Berlin. Dropped Dec. 9, 1877. Sire, Summit Airdrie 12997; dam, May Cherry. Vol. 12, page 1032.
12. Boynton, bred and exhibited by J. N. Brown's Sons, Berlin. Dropped Dec. 13, 1877. Sire, Summit Airdrie 12997; dam, Cyathea 2d. Vol. 15, page 495.
13. Conger, bred and exhibited by J. N. Brown's Sons, Berlin. Dropped Jan. 12, 1878. Sire, Knightly Wilcy 26989; dam, Lady Mason. Vol. 15, page 862.
14. Belmont, bred and exhibited by J. N. Brown's Sons, Berlin. Dropped May 17, 1878. Sire, Knightly Wilcy 26989; dam, Blossom, Vol. 12, 648.
15. Morris, bred and exhibited by J. N. Brown's Sons, Berlin. Dropped April 4, 1878. Sire, Summit Airdrie 12997; dam, Lady of Leroy 3d. Vol. 9, 726.

Cow three years old or over—3 entries:

16. Adelia 2d, exhibited by Dexter Curtis, Madison, Wis. Bred by J. E. Suddith, Stony Point, Ky. Dropped Nov. 5, 1873. Sire, Dick Taylor 5508; dam, Adelia, by Justice.
17. Barbana, exhibited by Dexter Curtis, Madison, Wis. Bred by E. P. Brockway, Ripon, Wis. Dropped Oct. 24, 1869. Sire, Volunteer 6278; dam, Belle, by Snowball.
18. Red Bettie, exhibited by R. K. & A. S. Brownlie, Long Grove, Iowa. Bred by C. W. Goff, Mammoth. Dropped April, 14, 1874. Sire, Airdrie 2d 7458; dam, Roan Bettie.

- 19 2d Rose of York, exhibited by S. E. Prather, Sherman. Bred by Geo. A. Bean, Winchester, Ky. Dropped May 18, 1872. Sire, Duke of York 3524; dam, Pauline, by Wiley 3d, 2386.
- 20 5th Miss Morton of Riverdale, bred and exhibited by S. E. Prather, Sherman. Dropped Aug. 11, 1876. Sire, Bruere's Booth 4819, dam, Miss Morton 2d, by Duke of Morton 8251.
- 21 8th Belle of Liberty, bred and exhibited by W. F. Gordon, Liberty, Mo. Dropped June 19, 1871. Sire, Rama 7158; dam, Gazelle.
- 22 Missouri Belle 2d, bred and exhibited by W. F. Gordon, Liberty, Mo. Dropped Sept. 20, 1873. Sire, Stonewall 11040; dam, Mary Bates 2d, Vol. 10.
- 23 Diana, exhibited by Wing & Thompson, Bement. Bred by T. J. Barbee, Paris, Ky. Dropped Dec. 12, 1875. Sire, Marquis of Bute, 14866; dam, Delilah, Vol. 13.

LOT 2—HEREFORDS—THOROUGHBREDS.

Steer four years old or over—4 entries:

24. Blake, exhibited by John Sherman, Chicago. Bred by W. P. Blake, Waterville, Maine. Dropped March 18, 1875. Sire, Romeo; dam, Stately 2d.
25. Hubbard, exhibited by John Sherman, Chicago. Bred by W. P. Blake, Watertown, Maine. Dropped March 26, 1875. Sire, Romeo; dam, Verbena 4th
26. Royal, exhibited by Thos. Clark, Beecher. Bred by G. E. Shores, Waterville, Maine. Dropped Oct. 6, 1875. Sire, Kennebec Lad 1528; dam, Hereford Cow.
27. John, exhibited by T. L. Miller, Beecher. Bred by J. Merryman, Cockeysville, Md. Dropped April 7, 1875. Sire, Sir Richard 4934; dam, Jennie Clark.

Steer three and under four years—2 entries:

28. Bright, exhibited by Thos. Clark, Beecher. Bred by G. E. Shores, Waterville, Maine. Dropped Dec. 20, 1875. Sire, Kennebec Lad 1528; dam, Hereford Cow.
29. Merryman, exhibited by T. L. Miller, Beecher. Bred by John Merryman, Cockeysville, Md. Dropped Feb. 19, 1876. Sire, Sir Richard 2d; dam, Jennie Clark.

Steer two and under three years—1 entry:

30. Alex, bred and exhibited by T. L. Miller, Beecher; Dropped Aug. 15, 1877. Sire, Success 5031; dam, Hereford Cow.

Steer one and under two years—3 entries:

31. General, bred and exhibited by T. L. Miller, Beecher. Dropped Nov. 28, 1877. Sire, Success 5031; dam, Hereford Cow.
32. Will, bred and exhibited by T. L. Miller, Beecher. Dropped June 28, 1878. Sire, Success 5031; dam, Mollie.
33. Washington, bred and exhibited by T. L. Miller, Beecher. Dropped June 10, 1878. Sire, Success 5031; dam, Miss Smith.

Cow three years old or over—2 entries:

34. Jennie, exhibited by T. L. Miller, Beecher. Bred by J. H. Holzlander. Dropped May 1, 1874. Sire, Sir Arthur 4112; dam, Favorite.
35. Nellie, exhibited by Thos. Clark, Beecher. Bred by James Cross, Elyria, O. Dropped April 25, 1865. Sire, John Bull 3885; dam, Florence.

LOT 3—DEVONS—THOROUGHBREDS.

Steer four years old or over—No entries:

Steer three and under four years—1 entry:

36. Buck, exhibited by L. F. Ross, Avon. Bred by L. Ransom, Oak Creek, Wis. Dropped March 15, 1876. Sire, Sir John 1065; dam, Gem 1685.

Steer two and under three years—No entries:

Steer one and under two years—1 entry:

37. Honest Tom, bred and exhibited by L. F. Ross, Avon. Dropped July 15, 1878. Sire, Honesty 915; dam, Miss Take 2537

Cow three years old or over—2 entries:

38. Marilla, exhibited by L. F. Ross, Avon. Bred by D. C. May, Rochelle. Dropped April 19, 1870. Sire, Madison 272; dam, Annie 361.
39. Tilla, exhibited by Bruno Gansel, Hyde Park. Bred by S. Sturges, Riverside. Dropped Nov. 10, 1875. Sire, Devon Bull; dam, Devon Cow.

LOT 4—OTHER PURE BREEDS—NOT NAMED.

NO ENTRY.

LOT 5—GRADES OR CROSSES.

Steer four years old or over—17 entries:

40. Col. Judy, grade Shorthorn, exhibited by John Sherman, Chicago. Bred by Abram Mann, Vermilion Co., Ind. Dropped April 15, 1873. Sire shorthorn bull; dam, $\frac{3}{4}$ grade shorthorn cow.
41. General Logan, grade Devon, exhibited by John Sherman, Chicago. Bred by S. Saun, Kingston Station. Dropped April 15, 1873. Sire, Devon bull; dam, grade shorthorn cow.
2. Doc Woods, grade Shorthorn, exhibited by John Sherman, Chicago. Bred by J. D. Gillett, Elkhart. Dropped April 15, 1875. Sire, shorthorn bull; dam, $\frac{1}{2}$ grade shorthorn cow.
43. Nels Morris, grade Shorthorn, exhibited by John Sherman, Chicago. Bred by Abram Mann, Vermilion Co., Ind. Dropped April 15, 1873. Sire, shorthorn bull; dam, $\frac{3}{4}$ grade shorthorn cow.
44. John Sherman, grade Shorthorn, exhibited by John Sherman, Chicago. Bred by J. D. Gillett, Elkhart. Dropped April 15, 1875. Sire, shorthorn bull; dam, $\frac{1}{2}$ grade shorthorn cow.
45. T. C. Eastman, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1875. Sire, shorthorn bull; dam, $\frac{3}{4}$ grade shorthorn cow.
46. Shortleg, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1875. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
47. Ned Short, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 15, 1875. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
48. Vanderbilt, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped July 20, 1875. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
49. Robert Burns, grade Shorthorn, exhibited by J. D. Gillett, Elkhart. Bred by Barney McQue, Elkhart. Dropped June 15, 1875. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
50. Old Style, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped September 1, 1875. Sire, shorthorn bull, three-quarter grade shorthorn cow.
51. Turner, grade Shorthorn, exhibited by J. H. Graves, Chilesburg, Ky. Bred by Mrs. C. Turner, Winchester, Ky. Dropped June 10, 1875. Sire, shorthorn bull; dam, grade shorthorn cow.
52. Ben, grade Hereford, exhibited by T. L. Miller, Beecher. Bred by A. H. Seabury, Fowler, Ind. Dropped December 25, 1874. Sire, Dalesman; dam, Native cow.
53. Gov. Morton, grade Shorthorn, bred and exhibited by Geo. Gray, Sr., Rushville, Ind. Dropped May 10, 1873. Sire, shorthorn bull; dam, grade shorthorn cow.
54. Hoosier Boy, grade Shorthorn. Bred and exhibited by Geo. Gray, Sr., Rushville, Ind. Dropped May 25, 1874. Sire, shorthorn bull; dam, grade shorthorn cow.
55. Bob Ingersoll, grade Shorthorn, exhibited by John Sherman, Chicago. Bred by J. D. Gillett, Elkhart. Dropped April 15, 1875. Sire, shorthorn bull; dam one-half grade shorthorn cow.
56. Burnside, grade Shorthorn, bred and exhibited by J. Lequette, Illinois City. Dropped June 17, 1873. Sire, grade shorthorn bull; dam, shorthorn cow.

Steer 3 and under four years—29 entries:

57. Jim Lockwood, grade Devon, exhibited by L. F. Ross, Avon. Bred by J. Lockwood, Avon. Dropped June 4, 1876. Sire, Rochelle Lad 1044; dam, one-quarter shorthorn, three-quarter native cow.
58. Barrow, grade Shorthorn, exhibited by J. H. Graves, Chilesburg, Ky. Bred by A. C. Barrow, Winchester, Ky. Dropped Jan. 15, 1878. Sire, shorthorn bull; dam, grade short horn cow.
59. Number One, grade Shorthorn, exhibited by L. F. Ross, Avon. Bred by S. Tompkins, Avon. Dropped May 1, 1876. Sire, shorthorn bull; dam, $\frac{3}{4}$ Devon $\frac{1}{4}$ shorthorn cow.

60. Billy, grade Hereford, exhibited by T. L. Miller, Beecher. Bred by G. S. Burleigh. Dropped April 15, 1876. Sire, Oxford 854; dam, native cow.
61. Thad. Stevens, grade Shorthorn, bred and exhibited by T. W. Hunt, Ashton. Dropped April 25, 1876. Sire, Laudable 17493; dam, three-quarter grade shorthorn cow.
63. Barney, grade Hereford, bred and exhibited by T. L. Miller, Beecher. Dropped May 15, 1876. Sire, Mechanic; dam, native cow.
63. Rowdy Boy, grade Shorthorn, bred and exhibited by T. W. Hunt, Ashton. Dropped May 20, 1876. Sire, Landable 17493; dam, three-quarter shorthorn cow.
64. Frank, grade Hereford, exhibited by T. L. Miller, Beecher; bred by B. Chapman. Dropped May 15, 1876. Sire, Sir Charles 2d, 4960; dam, native cow.
65. Red Chub, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 1, 1876. Sire, shorthorn bull; dam, three-quarter shorthorn cow.
66. Sam, grade Hereford, exhibited by T. L. Miller, Beecher; bred by B. Chapman, —. Dropped June 15, 1876. Sire, Sir Charles 2d, 4960; dam, grade shorthorn cow.
67. White Stocking, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 10, 1876. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
68. Captain, grade Hereford, exhibited by T. L. Miller, Beecher; bred by B. Chapman, —. Dropped May 15, 1876. Sire, Sir Charles 2d, 4960; dam, grade shorthorn cow.
69. Chub, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 1, 1876. Sire, shorthorn bull; dam, three-fourths grade shorthorn cow.
70. Peter, grade Hereford, exhibited by T. L. Miller, Beecher; bred by B. Chapman, —. Dropped May 15, 1876. Sire, Sir Charles 2d 4960; dam, grade shorthorn cow.
71. Capt. Nels Morris, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped Sept. 15, 1876. Sire, shorthorn bull; dam, three-fourths grade shorthorn cow.
72. Colonel, grade Hereford, bred and exhibited by T. L. Miller, Beecher. Dropped June 15, 1876. Sire, Plato; dam, native cow.
73. Geo. Adams, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped Sept. 15, 1876. Sire, shorthorn bull; dam, three-fourths grade shorthorn cow.
74. Bement, grade Shorthorn, exhibited by Wing & Thompson, Bement; bred by James Camp, Bement. Dropped Oct. 4, 1876. Sire, Aristocrat 7509; dam, one-half grade shorthorn cow.
75. Heavy Set, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped April 10, 1876. Sire, shorthorn bull; dam, three-fourths grade shorthorn cow.
76. Barney McCue, grade Shorthorn, exhibited by J. D. Gillett, Elkhart; bred by Barney McCue Elkhart. Dropped April 15, 1876. Sire shorthorn bull; dam three-fourths shorthorn cow.
77. Snow Flake, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 1, 1876. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
78. Red Charley, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 10, 1876. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
79. Red Rover, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped April 5, 1876. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
80. Short, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 1, 1876. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
81. Lake, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 10, 1876. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
82. Down Horn, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 20, 1876. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
83. White Star, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 1, 1876. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.

84. Bradshaw, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1876. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
85. Drake, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May, 15, 1876. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.

Steer 2 years and under 3 years—31 entries:

86. Charmer, grade Shorthorn, bred and exhibited by T. W. Hunt, Ashton. Dropped December 15, 1876. Sire, Landable 17493; dam, seven-eighths grade shorthorn cow.
87. Peter Cooper, grade Shorthorn, bred and exhibited by T. W. Hunt, Ashton. Dropped December 14, 1876. Sire, Laudable 17493; dam, seven-eighths grade shorthorn cow.
88. Victoria Duke, grade Shorthorn, exhibited by T. W. Hunt, Ashton. Bred by G. W. Myers, Ashton, Ill. Dropped April 22d, 1877. Sire, Laudable 17493; dam, three-quarters grade shorthorn cow.
89. Bearleg, grade Shorthorn, exhibited by J. G. Gillett, Elkhart. Bred by Barney McCue, Elkhart. Dropped February 20, 1877. Sire, shorthorn bull; dam three-quarters grade shorthorn cow.
90. Shorty, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped March 20, 1877. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
91. Barney, grade Shorthorn, exhibited by J. D. Gillett, Elkhart. Bred by Barney McCue, Elkhart. Dropped March 8, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
92. Red Charley 2d, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped Feb. 22, 1877. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
93. John Wood, grade Shorthorn, bred and exhibited by J. G. Gillett, Elkhart. Dropped March 1, 1877. Sire, shorthorn bull; dam three-quarter grade shorthorn cow.
94. S. E. Wood, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped April 10, 1877. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
95. Roan Chub, grade Shorthorn, exhibited by J. D. Gillett, Elkhart. Bred by Barney McCue, Elkhart. Dropped April 15, 1877. Sire, shorthorn bull; dam three-quarter grade shorthorn cow.
96. Lake Fork, grade Shorthorn bred and exhibited by J. D. Gillett, Elkhart. Dropped April 15, 1877. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
97. Wildy, grade Shorthorn bred and exhibited by J. D. Gillett, Elkhart. Dropped June 15, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
98. Fisher, grade Shorthorn, exhibited by J. D. Gillett, Elkhart. Bred by Barney McCue, Elkhart. Dropped April 15, 1877. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
99. Barrow 2d, grade Shorthorn, exhibited by J. H. Graves, Chilesburg, Ky. Bred by A. C. Barrow, Winchester, Ky. Dropped January 20, 1877. Sire, shorthorn bull; dam, grade shorthorn cow.
100. Lyle, grade Shorthorn, exhibited by J. H. Graves, Chilesburg, Ky. Bred by James Lyle, Athens, Ky. Dropped March 15, 1877. Sire, shorthorn bull; dam, grade shorthorn cow.
101. Nelson, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped April 15, 1877. Sire, Nelson Rowland 27324; dam, three-quarters grade shorthorn cow.
102. Rube, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped April 1, 1877. Sire, Nelson Rowland 27324; dam, half grade shorthorn cow.
103. Leo, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped Dec. 15, 1876. Sire, Nelson Rowland 27324; dam, half grade shorthorn cow.
104. Earld, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped May 4, 1877. Sire, Nelson Rowland 27324; dam three-quarter grade shorthorn cow.
105. Davis, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped May 6, 1877. Sire, Nelson Rowland 27324; dam, half grade shorthorn cow.
106. Ogle Duke, grade Shorthorn, exhibited by A. F. Moore, Polo. Bred by Hawks & Moore, Polo. Dropped April 20, 1877. Sire, Nelson Rowland 27324; dam, three-quarter grade shorthorn cow.

107. Bowen, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
108. Curphy, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped Feb. 15, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
109. Powers, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped March 15, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
110. Shea, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1877. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
111. Schuler, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 1, 1877. Sire, shorthorn bull; dam, three-quarters grade shorthorn cow.
112. Bice, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
113. Dean, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 15, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
114. Taylor, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 1, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
115. Lewis, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
116. Buckles, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 1, 1877. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.

Steer one and under two years—14 entries:

117. Clare S. Reed, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1878. Sire, shorthorn bull; dam, three-quarter grade short horn cow.
118. Albert Pell, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1878. Sire, shorthorn bull; dam, three-quarter grade short horn cow.
119. Blackstone, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 15, 1878. Sire, shorthorn bull; dam three-quarter short horn cow.
120. McMullen, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped March 15, 1878. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
121. Van Horn, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 15, 1878. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
122. Charlton, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1878. Sire shorthorn bull; dam, three-quarter grade shorthorn cow.
123. Jim Smith, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped June 15, 1878. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
124. Whipple, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1878. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
125. Hurlburt, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1878. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
126. Vaughn, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1878. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
127. Richards, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1878. Sire, shorthorn bull; dam, three-quarter grade short horn cow.
128. Larrabee, grade Shorthorn, bred and exhibited by J. D. Gillett, Elkhart. Dropped May 15, 1878. Sire, short horn bull; dam, three-quarter grade shorthorn cow.
129. Hawks, grade Shorthorn, exhibited by A. F. Moore, Polo; bred by Hawks & Moore, Polo. Dropped April 15, 1878. Sire, shorthorn bull; dam, three-quarter grade shorthorn cow.
130. Putnam, grade Hereford, bred and exhibited by T. L. Miller, Beecher. Dropped July 12, 1878. Sire, Success 5031; dam, native cow.

Cow three years old or over—no entries:

LOT 8—CAR LOADS.

131. Happy Jack, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped April 8, 1877. Sire, Nelson Rowland 27324; dam, one-half grade shorthorn cow.

132. Jim, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped May 10, 1877. Sire, Nelson Rowland 27,324; dam, one-half grade shorthorn cow.
133. Tom, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped May 5, 1877. Sire, shorthorn bull; dam, three-quarter grade short-horn cow.
134. Bruin, grade Shorthorn, bred and exhibited by A. F. Moore, Polo. Dropped April 5, 1877. Sire, Nelson Rowland 27324; dam one-half grade shorthorn cow.

CLASS C—SHEEP.

D. W. VITTUM, JR., *Superintendent.*

LOT 12—LONG WOOLS.

Wether 2 years old or over—7 entries:

135. Quick, Cotswold, bred and exhibited by J. A. Brown & Son, Decatur. Dropped March 15, 1877. Sire, St. Louis; dam, Queen.
136. Slow, Cotswold, bred and exhibited by J. A. Brown & Son, Decatur. Dropped March 15, 1877. Sire, St. Louis; dam, Queen of the West.
137. Dave Hall, Cotswold, exhibited by George Pickrell, Wheatfield, bred by Ben. Edwards, Buffalo Hart. Dropped May 1, 1876. Sire, cotswold ram; dam, cotswold ewe.
138. George, Cotswold, exhibited by T. L. Miller, Beecher. Bred by J. A. Brown, Decatur. Dropped April 15, 1877. Sire, cotswold ram; dam, cotswold ewe.
139. Guelph, Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred by Model Farm, Guelph, Canada. Dropped March 15, 1877. Sire, leicester ram; dam, leicester ewe.
140. Ontario, Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred by Ontario School of Agriculture, Canada. Dropped March 15, 1877. Sire, leicester ram; dam, leicester ewe.
141. Tom, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Dropped March 15, 1877. Sire, cotswold ram; dam, cotswold ewe.

Wether, 1 and under 2 years—5 entries:

142. Dick, Cotswold, bred and exhibited by T. L. Miller, Beecher. Dropped April 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
143. Bob, Cotswold, bred and exhibited by T. L. Miller, Beecher. Dropped April 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
144. Favorite, Cotswold, bred and exhibited by J. A. Brown & Son, Decatur. Dropped April 15, 1878. Sire, St. Louis; dam, Lady Brown.
145. Snell, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Bred by J. Snell's Sons, Edmonton, Canada. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
146. Model, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Bred by Model Farm, Guelph, Canada. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.

Wether under 1 year old—1 entry:

147. John, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Bred by J. Snell's Sons, Edmonton, Canada. Dropped March 15, 1879. Sire, cotswold ram; dam, cotswold ewe.

Ewe 2 years old or over—16 entries:

148. Black Eye, Cotswold, bred and exhibited by Wm. Moffatt & Bro., Paw Paw. Dropped April 15, 1876. Sire, Old Joe; dam, Mitchell ewe.
149. Miss Simon, Cotswold, bred and exhibited by Wm. Moffatt & Bro., Paw Paw. Dropped April 15, 1876. Sire, Joe; dam, Simon ewe.
150. Jose, Cotswold, bred and exhibited by Wm. Moffatt & Bro., Paw Paw. Dropped April 15, 1876. Sire, Old Joe; dam, Mitchell ewe.
151. Sallie Mitchell, Cotswold, bred and exhibited by Wm. Moffatt & Bro., Paw Paw. Dropped April 15, 1876. Sire, Old Joe; dam, Mitchell ewe.

- 152. Elsie, Cotswold, bred and exhibited by T. L. Miller, Beecher. Dropped May 15, 1877. Sire, cotswold ram; dam, cotswold ewe.
- 153. May Day, Cotswold, bred and exhibited by T. L. Miller, Beecher. Dropped May 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 154. Lady Snell, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Bred by Robert Jacobs, England. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 155. Lady Stone, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Bred by F. W. Stone, Guelph, Canada. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 156. Lady Waters, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Bred by Thos. Waters, Guelph, Canada. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 157. Teastle, Cotswold, exhibited by Frank Wilson, Jackson, Michigan. Bred by Thos. Teastle, Concord, Canada. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 158. Strawn 84, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Henry Cole, Gloucestershire, England. Dropped March 15, 1878. Sire, Cole ram; dam, Cole ewe.
- 159. Strawn 346, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Henry Cole, Gloucestershire, England. Dropped March 15, 1878. Sire, Cole ram; dam, Cole ewe.
- 160. Strawn 318, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Henry Cole, Gloucestershire, England. Dropped March 15, 1878. Sire, Cole ram; dam, Cole ewe.
- 161. Strawn 320, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Henry Cole, Gloucestershire, England. Dropped March 15, 1878. Sire, Cole ram; dam, Cole ewe.
- 162. Marion, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 163. Belle, Cotswold, exhibited by Geo. Hood, Guelph, Canada. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- Ewe; one and under two years—13 entries:*
- 164. Alice, Cotswold, bred and exhibited by T. L. Miller, Beecher. Dropped April 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 165. Kate, Cotswold, bred and exhibited by T. L. Miller, Beecher. Dropped April 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 166. Lady Kirby, Cotswold, exhibited by Geo. Hood, Guelph, Ca. Bred by John Kirby, Guelph, Ca. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 167. Model Lady, Cotswold, exhibited by Geo. Hood, Guelph, Ca. Bred at Model Farm, Guelph, Ca. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.
- 168. Strawn 250, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Robert Jacobs, Signett Hill, England. Dropped March 15, 1878. Sire, Jacobs ram; dam, Jacobs ewe.
- 169. Strawn 249, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Robert Jacobs, Signett Hill, England. Dropped March 15, 1878. Sire, Jacobs ram; dam, Jacobs ewe.
- 170. Strawn 248, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Robert Jacobs, Signett Hill, England. Dropped March 15, 1878. Sire, Jacobs ram; dam, Jacobs ewe.
- 171. Strawn 247, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Robert Jacobs, Signett Hill, England. Dropped March 15, 1878. Sire, Jacobs ram; dam, Jacobs ewe.
- 172. Strawn 246, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by Robert Jacobs, Signett Hill, Eng. Dropped March 15, 1878. Sire, Jacobs ram; dam, Jacobs ewe.
- 173. Strawn 245, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by T. & S. G. Gillett, Killkenny Eng. Dropped March 15, 1878. Sire, Gillett ram; dam, Gillett ewe.
- 174. Strawn 244, Cotswold, exhibited by Abner Strawn, Ottawa. Bred by T. & S. G. Gillett, Killkenny Eng. Dropped March 15, 1878. Sire, Gillett ram; dam, Gillett ewe.

175. Strawn 243. Cotswold. exhibited by Abner Strawn, Ottawa. Bred by T. & S. G. Gillett, Killkenny Eng. Dropped March 15, 1878. Sire, Gillett ram; dam, Gillett ewe.
176. Strawn 242. Cotswold. exhibited by Abner Strawn, Ottawa. Bred by T. & S. G. Gillett, Killkenny Eng. Dropped March 15, 1878. Sire, Gillett ram; dam, Gillett ewe.

Ewe under one year—5 entries:

177. Gem. Leicester, bred and exhibited by Geo. Carey, Rochelle. Dropped April 20, 1879. Sire, Leicester ram; dam, Leicester.
178. Gipsy. Cotswold. bred and exhibited by T. L. Miller, Beecher. Dropped April 15, 1879. Sire, cotswold ram; dam, Lane ewe.
179. Topsy. Cotswold. bred and exhibited by T. L. Miller, Beecher. Dropped April 15, 1879. Sire, cotswold ram; dam, Lane ewe.
180. Rose Kirby. Cotswold. exhibited by Geo. Hood, Guelph, Ca. Bred by John Kirby, Guelph, Ca. Dropped March 15, 1879. Sire, cotswold ram; dam, cotswold ewe.
181. Willson. Cotswold, bred and exhibited by Frank Willson, Jackson, Mich. Dropped March 15, 1878. Sire, cotswold ram; dam, cotswold ewe.

LOT 13—MIDDLE WOOLS.

Wether two years old or over—14 entries:

182. Wentworth. Southdown, exhibited by John Gosling, Rockford. Bred by Luke Teeple, Belvidere. Dropped May 5, 1877. Sire, Wentworth ram; dam, Teeple ewe.
183. Wesson. Southdown, exhibited by Geo. Carey, Rochelle. Bred by W. Holton & Son, Willow Creek. Dropped April 15, 1878. Sire, southdown ram; dam, southdown ewe.
184. Ed. Holton. Southdown, exhibited by Geo. Carey, Rochelle. Bred by W. Holton & Son, Willow Creek. Dropped April 15, 1877. Sire, southdown ram; dam, southdown ewe.
185. Edson. Southdown, exhibited by Geo. Carey, Rochelle. Bred by W. Holton & Son, Willow Creek. Dropped April 15, 1877. Sire, southdown ram; dam, southdown ewe.
186. Uncle Jake. Southdown, exhibited by Geo. Pickrell, Wheatfield. Bred by D. W. Smith, Bates. Dropped May 1, 1875. Sire, southdown ram; dam, southdown ewe.
187. Nick. Southdown, exhibited by Geo. Pickrell, Wheatfield. Bred by D. W. Smith, Bates. Dropped May 1, 1875. Sire, southdown ram; dam, southdown ewe.
188. Harvey. Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1875. Sire, southdown ram; dam, southdown ewe.
189. Todd. Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1876. Sire, southdown ram; dam, southdown ewe.
190. Graft. Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1876. Sire, southdown ram; dam, southdown ewe.
191. Anderson. Southdown, exhibited by Geo. Hood, Guelph, Canada. Bred by James Anderson, Guelph, Canada. Dropped March 15, 1877. Sire, southdown ram; dam, southdown ewe.
192. Model Boy. Southdown, exhibited by Geo. Hood, Guelph, Canada. Bred by Model Farm, Guelph, Canada. Dropped March 15, 1877. Sire, southdown ram; dam, Lincoln ewe.
193. Harry. Oxford, exhibited by Frank Willson, Jackson, Michigan. Bred by Taylor Bros., Wayneville. Dropped March 15, 1878. Sire, oxford ram; dam, oxford ewe.
194. Dick. Shropshire, exhibited by Frank Willson, Jackson, Mich. Bred by Taylor Bros., Wayneville. Dropped March 15, 1878. Sire, shropshire ram; dam, shropshire ewe.
195. Prince. Shropshiredown, bred and exhibited by Taylor Bros., Wayneville. Dropped April 10, 1876. Sire, Prince; dam, Queen.

Wethers 1 and under 2 years—8 entries:

196. Sam. Southdown, exhibited by Geo. Carey, Rochelle. Bred by W. Holton & Son, Willow Creek. Dropped May 15, 1878. Sire, southdown ram; dam, southdown ewe.

197. Jim, Southdown, exhibited by Geo. Carey, Rochelle. Bred by W. Holton & Son, Willow Creek. Dropped May 15, 1878. Sire, southdown ram; dam, southdown ewe.
198. Alvey, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1878. Sire, southdown ram; dam southdown ewe.
199. J. M. Bird, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1878. Sire, southdown ram; dam, southdown ewe.
200. Jacob Bird, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1878. Sire, southdown ram; dam, southdown ewe.
201. Scott, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1878. Sire, southdown ram; dam, southdown ewe.
202. Arthur, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1878. Sire, southdown ram; dam, southdown ewe.
203. James, Southdown, exhibited by Geo. Hood, Guelph, Canada. Bred by James Anderson, Guelph, Canada. Dropped March 15, 1878. Sire, southdown ram; dam, southdown ewe.

Wether under 1 year—2 entries:

204. Bud Lucky, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1879. Sire, southdown ram; dam, southdown ewe.
205. T. J., Southdown, bred and exhibited by George Pickrell, Wheatfield. Dropped May 1, 1879. Sire, southdown ram; dam, southdown ewe.

Ewe 2 years old or over—10 entries:

206. Queen, Shropshire, exhibited by J. A. Brown & Son, Decatur. Bred by James Cotton, Rockford. Dropped March 15, 1877. Sire, Shropshiredown ram; dam, shropshiredown ewe.
207. Beauty, Southdown, exhibited by Luke Teeple, Belvidere. Bred by John Wentworth, Chicago. Dropped April 1, 1878. Sire, southdown ram; dam, southdown ewe.
208. Lucy, Southdown, exhibited by Geo. Carey, Rochelle. Bred by W. Holton & Son, Willow Creek. Dropped April 15, 1877. Sire, southdown ram; dam, southdown ewe.
209. Bostock, Shropshire, exhibited by James Cotton, Rockford. Bred by E. Bostock, Dunton, Eng. Dropped March 18, 1876. Sire, shropshiredown ram; dam, shropshiredown ewe.
210. Lady, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1877. Sire, southdown ram; dam, southdown ewe.
211. Belle, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1877. Sire, southdown ram; dam, southdown ewe.
212. Queen, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1878. Sire, southdown ram; dam, southdown ewe.
213. Bess, Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1874. Sire, southdown ram; dam, southdown ewe.
214. Armstrong, Southdown, exhibited by Geo. Hood, Guelph, Canada. Bred by John Armstrong, Guelph, Canada. Dropped March 15, 1877. Sire, southdown ram; dam, southdown ewe.
215. Queen, Shropshiredown, bred by Taylor Bros., Waynesville. Dropped April 4, 1874. Sire, Prince; dam, Kato.

Ewe one and under two years—3 entries:

216. Byrd, Shropshire, exhibited by James Cotton, Rockford. Bred by E. Byrd, Lettwood Eng. Dropped March 14, 1878. Sire, shropshiredown ram; dam, shropshiredown ewe.
217. Lady Armstrong, Southdown, exhibited by Geo. Hood, Guelph Ca. Bred by John Armstrong, Guelph Ca. Dropped March 15, 1878. Sire, southdown ram; dam, southdown ewe.
218. Rose Anderson, Southdown, exhibited by Geo. Hood, Guelph Ca. Bred by James Anderson, Guelph Ca. Dropped March 15, 1878. Sire, southdown ram; dam, southdown ewe.

Ewe under one year—1 entry:

219. Bess Armstrong, Southdown, exhibited by Geo. Hood, Guelph Ca. Bred by John Armstrong, Guelph Ca. Dropped March 15, 1879. Sire, southdown ram; dam, southdown ewe.

LOT 14.—GRADES OR CROSSES

Wether 2 years old or over—18 entries:

220. Palmer 1st, grade Cotswold, bred and exhibited by S. A. Fox, Waukesha, Wis. Dropped March 15, 1878. Sire, Palmer, (cotswold); dam, native ewe.
221. Dan, grade Cotswold, exhibited by Geo. Pickrell, Wheatfield. Bred by D. Stookay, Harriestown. Dropped May 1, 1876. Sire, cotswold; dam, grade cotswold.
222. John, grade Cotswold, exhibited by Geo. Carey, Rochelle. Bred by Wm. Bowen, Earlsville. Dropped April 15, 1877. Sire, cotswold; dam, grade cotswold.
223. Ben, grade Cotswold, exhibited by Geo. Pickrell, Wheatfield. Bred by Ben Edwards, Buffalo Hart. Dropped May 1, 1875. Sire, cotswold ram; dam grade cotswold.
224. Jacob, grade Cotswold, exhibited by Geo. Carey, Rochelle. Bred by L. Stocking, Lindenwood. Dropped April 15, 1877. Sire, cotswold ram; dam, cotswold ewe.
225. Hudson, grade Shropshire, exhibited by James Cotton, Rockford. Bred by John Hudson, Moweaqua. Dropped April 27, 1877. Sire, shropshiredown ram; dam, cotswold ewe.
226. Moweaqua, grade Shropshire, exhibited by James Cotton, Rockford. Bred by John Hudson, Moweaqua. Dropped April 30, 1877. Sire, shropshiredown ram; dam, cotswold ewe.
227. O. P., grade Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1877. Sire, southdown ram; dam, native ewe.
228. Jim Griffith, grade Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1877. Sire, southdown ram; dam, native ewe.
229. Barney, grade Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1877. Sire, southdown ram; dam, native ewe.
230. Geo. Smith, grade Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1876. Sire, southdown ram; dam, native ewe.
231. Campbell, grade Shorthorn, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped May 1, 1876. Sire, southdown ram; dam, native ewe.
232. Farm Lad, grade Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred at Model Farm, Guelph, Canada. Dropped March 15, 1877. Sire, leicester ram; dam, native ewe.
233. Farm Pride, grade Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred at Model Farm, Guelph, Canada. Dropped March 15, 1877. Sire, leicester ram; dam, native ewe.
234. Robin, grade Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred by Model Farm, Guelph, Canada. Dropped March 15, 1877. Sire, leicester ram; dam, grade cotswold ewe.
235. John, grade Shropshire, exhibited by Frank Wilson, Jackson, Mich. Bred by Taylor Bros., Waynesville. Dropped March 15, 1876. Sire, shropshiredown ram; dam, cotswold ewe.
236. Tom, grade Shropshire, exhibited by Frank Willson, Jackson, Mich. Bred by Taylor Bros., Waynesville. Dropped March 15, 1876. Sire, shropshiredown ram; dam, cotswold ewe.
237. Beauty, bred and exhibited by Taylor Bros., Waynesville. Dropped April 6, 1876. Sire, Prince; dam, Queen.

Wether, 1 and under two years—12 entries:

238. Palmer 2d, grade Cotswold, bred and exhibited by S. A. Fox, Waukesha, Wis. Dropped March 15, 1878. Sire, Palmer (cotswold); dam, native ewe.
239. Henry, grade Leicester, exhibited by Geo. Carey, Rochelle. Bred by H. Van Patten, Steward. Dropped June 15, 1878. Sire leicester ram; dam, grade leicester ewe.

240. Isaac, grade Leicester, exhibited by Geo. Carey, Rochelle. Bred by H. Van Pat-
ten, Steward. Dropped June 15, 1878. Sire, leicester ram; dam, grade leicester
ewe.
241. Peter, grade Leicester, exhibited by Geo. Carey, Rochelle. Bred by H. Van Pat-
ten, Steward. Dropped June 15, 1878. Sire, leicester ram; dam, grade leicester
ewe.
242. Elder, grade Southdown, bred and exhibited by Geo. Pickrell, Wheatfield. Dropped
May 1, 1878. Sire, southdown ram; dam, native ewe.
243. Hesser, grade Southdown, bred and exhibited by George Pickrell, Wheatfield.
Dropped May 1, 1878. Sire, southdown; dam, native ewe.
244. Sudduth, grade Southdown, bred and exhibited by Geo. Pickrell, Wheatfield.
Dropped May 1, 1878. Sire, southdown ram; dam, native ewe.
245. Moreland, grade Southdown, bred and exhibited by Geo. Pickrell, Wheatfield.
Dropped May 1, 1878. Sire, southdown ram; dam, native ewe.
246. Taylor, grade Southdown, bred and exhibited by Geo. Pickrell, Wheatfield.
Dropped May 1, 1878. Sire, southdown ram; dam, native ewe.
247. Richard, grade Cotswold, bred and exhibited by T. I. Miller, Beecher. Dropped
April 15, 1878. Sire, Standard, 306 A. C. R.; dam, grade southdown.
248. Oxford, grade Oxford, exhibited by Geo. Hood, Guelph, Canada. Bred by Model
Farm, Guelph, Canada. Dropped March 15, 1878. Sire, oxford; dam, grade
cotswold ewe.
249. Oxford Boy, grade Oxford, exhibited by Geo. Hood, Guelph, Canada. Bred by
Model Farm, Guelph, Canada. Dropped March 15, 1878. Sire, oxford; dam, grade
leicester ewe.

Wether under one year old—4 entries:

250. William, grade Leicester, bred and exhibited by Geo. Carey, Rochelle. Dropped
January 15, 1879. Sire, grade leicester ram; dam, grade cotswold ewe.
251. Arkel, grade Southdown, exhibited by Geo. Hood, Guelph Ca. Bred by Thos.
Arkel, Guelph Ca. Sire, southdown ram; dam, cotswold ewe.
252. Hall, grade Cotswold, exhibited by Frank Willson, Jackson Mich. Bred by John
Hall, Jackson Mich. Dropped March 15, 1876. Sire, cotswold ram; dam merino
ewe.
253. John Hall, grade Cotswold, exhibited by Frank Willson, Jackson Mich. Bred by
John Hall, Jackson Mich. Dropped March, 15, 1879. Sire, cotswold ram; dam,
merino ewe.

Ewe two years old or over—10 entries:

254. Porter, grade Cotswold, bred and exhibited by S. A. Fox, Waukesha Wis. Drop-
ped Feb. 15, 1876. Sire, porter cotswold; dam, native ewe.
255. Alice, grade Leicester, exhibited by Geo. Carey, Rochelle. Bred by John McPherson,
Lobo, Ca. Dropped March 15, 1876. Sire, leicester ram; dam, grade leicester
ewe.
256. Grace, grade Leicester, exhibited by Geo. Carey, Rochelle. Bred by John McPherson,
Lobo, Canada. Dropped March 15, 1875. Sire, leicester ram; dam,
grade leicester ewe.
257. Sallie, grade Cotswold, exhibited by Geo. Pickrell, Wheatfield. Bred by D.
Stookey, Harristown. Dropped May 1, 1876. Sire, cotswold ram; dam, grade
cotswold ewe.
258. Susie, grade Cotswold, exhibited by Geo. Pickrell, Wheatfield. Bred by D. Stookey,
Harristown. Dropped May 1, 1876. Sire, cotswold ram; dam, grade cotswold
ewe.
259. Jane, grade Cotswold, exhibited by Geo. Pickrell, Wheatfield. Bred by D.
Stookey, Harristown. Dropped May 1, 1876. Sire, cotswold ram; dam, grade
cotswold ewe.
260. Lady Lincoln, grade Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred by
Model Farm, Guelph, Canada. Dropped April 15, 1877. Sire, leicester ram; dam,
cotswold ewe.
261. Miss Stewart, grade Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred by
Alex. Stewart, Ermosa, Canada. Dropped March 15, 1877. Sire, leicester ram;
dam, cotswold ewe.
262. Lady Leicester, grade Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred
by Model Farm, Guelph, Canada. Dropped March 15, 1877. Sire, leicester ram;
dam, grade cotswold ewe.

263. Lady Stewart, grade Leicester, exhibited by Geo. Hood, Guelph, Canada. Bred by Alex. Stewart, Ermosa, Canada. Dropped March 15, 1877. Sire, Leicester ram; dam, Cotswold ewe.

Ewe, one and under two years—4 entries:

264. Benedict, grade Cotswold, bred and exhibited by S. A. Fox, Waukesha, Wis. Dropped April 15, 1878. Sire, Benedict (cotswold); dam, one-half grade Cotswold ewe.
265. May, grade Leicester, exhibited by Geo. Cary, Rochelle. Bred by Thos. Carey, Creston. Dropped April 15, 1878. Sire, Leicester ram; dam, grade Leicester ewe.
266. Oxford Lass, grade Oxford, exhibited by Geo. Hood, Guelph, Ca. Bred by Model Farm, Guelph, Ca. Dropped March 15, 1878. Sire, Oxford; dam, grade Cotswold ewe.
267. Quarrie, grade Southdown, exhibited by Geo. Hood, Guelph, Ca. Bred by Chris Quarrie, Guelph, Ca. Dropped March 15, 1878. Sire Southdown ram; dam, grade Southdown ewe.

Ewe under one year—2 entries:

268. Beauty, grade Cotswold, exhibited by Geo. Hood, Guelph, Ca. Bred by Thos. Arkel, Guelph, Ca. Dropped March 15, 1879. Sire, Cotswold ram; dam Leicester ewe.
269. Ruth, grade Leicester, exhibited by Geo. Carey, Rochelle. Bred by H. Van Patten, Steward. Dropped May 15, 1879. Sire, Leicester ram; dam, grade Leicester ewe.

CLASS D—SWINE.

WM. VOORHIES, JR., *Superintendent.*

LOT 18—LARGE BREEDS—POLAND CHINA, BERKSHIRE, CHESTER WHITE, ETC.

Hog two years old or over—6 entries:

271. Young Centennial, Poland, exhibited by B. J. Orton, Cambridge. Bred by P. Johnson, Geneseo. Farrowed June 27, 1876. Sire, Centennial; dam, Beauty.
272. Mrs. Tilton, Poland, bred and exhibited by B. J. Orton, Cambridge. Farrowed October 20, 1877. Sire, Young Centennial; dam, Octavia.
273. Sallie, Poland, exhibited by Oliver, Fell & Miner, Toulon. Bred by McKenzie Bros., Toulon. Farrowed April 15, 1877. Sire, Poland boar; dam, Poland sow.
274. Young Champion, Poland, bred and exhibited by H. C. Castle, Wilmington. Farrowed May 25, 1877. Sire, Jim Crow, Jr.; dam, Bess.
275. Queen of West, Poland, bred and exhibited by H. C. Castle, Wilmington. Farrowed May 28, 1876. Sire, Moulton 203; dam, Beauty.
276. Highland Queen 5226, Am. Berkshire Record, Berkshire, bred and exhibited by T. L. Miller, Beecher. Farrowed Sept. 15, 1875. Sire, Sambo 4th 1099; dam, Killer by Queen 2254.

Hog one and under two years—15 entries:

277. White Chap, Berkshire, exhibited by Geo. Reed, Belvidere. Bred by Hewer Bros., Belvidere. Farrowed June 10, 1878. Sire, Royal Hopewell, 2011; dam, Mink 2604.
278. Lop Ear, Berkshire, exhibited by Geo. Reed, Belvidere. Bred by Hewer Bros., Belvidere. Farrowed June 10, 1878. Sire, Royal Hopewell 2011; dam, Mink 2604.
279. Capt. Dick, Berkshire, exhibited by Geo. Reed, Belvidere. Bred by Hewer Bros., Belvidere. Farrowed May 27, 1878. Sire, Royal Hopewell 2011; dam, Hannah 386.
280. Bob. Howard, Poland, bred and exhibited by J. A. Countryman, Rochelle. Farrowed March 20, 1878. Sire, Hercules; dam, Queen Vic.
281. Chieftain Jr., Poland, bred and exhibited by J. A. Countryman, Rochelle. Farrowed Oct. 5, 1878. Sire, Chieftain; dam, Queen Vic.
282. U. S. Grant, Poland, bred and exhibited by B. J. Orton, Cambridge. Farrowed March 1, 1878. Sire, Young Centennial; dam, Pocahontas.

283. Sally's Prince, Poland, bred and exhibited by J. B. Howe, Seneca. Farrowed Nov. 20, 1877. Sire, Royal Prince; dam, Sally.
284. Grant, Poland, exhibited by Oliver, Fell & Miner, Toulon. Bred by McKinzie Bros., Toulon. Farrowed April 15, 1878. Sire, Poland boar; dam, Poland sow.
285. Negro, Poland. Bred and exhibited by H. C. Castle, Wilmington. Farrowed May 29, 1878. Sire Moulton 203; dam, Darkness 866.
286. Jenny Lynd 3d, Poland, bred and exhibited by H. C. Castle, Wilmington. Farrowed February 15, 1878. Sire, Moulton 203; dam, Jenny Lynd 836.
287. Summer Cloud, Poland, bred and exhibited by H. C. Castle, Wilmington. Farrowed July 22, 1878. Sire, Hoosier Prince 205; dam, Eclipse 2d.
288. P. T. Barnum, Poland, bred and exhibited by H. C. Castle, Wilmington. Farrowed August 24, 1878. Sire, Prince Albert 207; dam, Jenny Lynd 2d.
289. Dolly Varden 5454, Berkshire, bred and exhibited by T. L. Miller, Beecher. Farrowed April 15, 1878. Sire, Royal Maybourne 2451; dam, Handsome 3d 5222.
290. Grant, Berkshire, exhibited by Frank Willson, Jackson, Mich. Bred by Chas Moe, Jackson, Mich. Farrowed July 15, 1878. Sire, Sambo; dam, Bismark.
291. Sherman, Berkshire, exhibited by Frank Willson, Jackson, Mich. Bred by Chas. Moe, Jackson, Mich. Farrowed July 15, 1878. Sire, Sambo; dam, Bismark.

Pig over six months and under one year—10 entries:

292. Hagar 6th, Berkshire, bred and exhibited by Hewer Bros., Belvidere. Farrowed April 21, 1879. Sire, Wrangler 2d, 2379; dam, Hagar 3d, 4472.
293. Sheridan, Poland, bred and exhibited by J. A. Countryman, Rochelle. Farrowed March 24, 1879. Sire, Chieftain; dam, Peggy.
294. Lennox, Poland, bred and exhibited by J. A. Countryman, Rochelle. Farrowed April 2, 1879. Sire, Dick Moore; dam, Mollie Stark.
295. Bessie Turner, Poland, bred and exhibited by B. J. Orton, Cambridge. Farrowed December 15, 1878. Sire, Young Centennial; dam, Mrs. Tilton.
296. Beecher, Poland, bred and exhibited by B. J. Orton, Cambridge. Farrowed December 15, 1878. Sire, Young Centennial; dam, Mrs. Tilton.
297. Butcher's Boy, Poland, bred and exhibited by H. C. Castle, Wilmington. Farrowed March 18, 1879. Sire, Hoosier Prince, 205; dam, Queen Charlotte, 842.
298. Queen Charlotte 4th, Poland, bred and exhibited by H. C. Castle, Wilmington. Farrowed March 18, 1879. Sire, Hoosier Prince 205; dam, Queen Charlotte, 842.
299. Empress, Berkshire, bred and exhibited by T. L. Miller, Beecher. Farrowed December 12, 1878. Sire, Highland King, 2453; dam, Daisy, 5224.
300. Eugonia, Berkshire, bred and exhibited by T. L. Miller, Beecher. Farrowed Feb. 14, 1879. Sire, Highland King 2453; dam, Fashion 5230.
301. Pocahontas, Poland, exhibited by W. W. McClung, Hennepin. Bred by C. Cline, Springfield. Farrowed April 12, 1879. Sire, Black Charley; dam, Flora.

Pig under six months old—11 entries:

302. Lady Mary, Berkshire, bred and exhibited by Hewer Bros., Belvidere. Farrowed July 28, 1879. Sire, Wrangler's Perfection; dam, Lady Radnor 4390.
303. Hopewell's Pet, Berkshire, bred and exhibited by Hewer Bros., Belvidere. Farrowed June 26, 1879. Sire Royal Hopewell 2011; dam, Rosamond 5200.
304. Ida Walrath, Poland, bred and exhibited by J. A. Countryman, Rochelle. Farrowed May 25, 1879. Sire, Butler; dam, Priscilla.
305. Beauty, Poland, exhibited by B. J. Orton, Cambridge. Bred by P. Johnson, Geneseo. Farrowed May 24, 1879. Sire, Bismark 2d; dam, Young Beauty.
306. Poland Beauty, Poland, bred and exhibited by H. C. Castle, Wilmington. Farrowed June 29, 1879. Sire, Honest Sam 363; dam, Lady Oxford 984.
307. Queen, Berkshire, bred and exhibited by T. L. Miller, Beecher. Farrowed June 12, 1878. Sire, Sir Richard; dam, Alice Maud 5434.
308. Dick, Berkshire, bred and exhibited by T. L. Miller, Beecher. Farrowed June 12, 1879. Sire, Sir Richard; dam, Alice Maud 5434.
309. Victoria, Berkshire, bred and exhibited by T. L. Miller, Beecher. Farrowed June 12, 1879. Sire, Sir Richard; dam, Alice Maud 5434.

310. Tom, Berkshire, bred and exhibited by T. L. Miller, Beecher. Farrowed June 12, 1879. Sire, Sir Richard; dam, Alice Maud 5434.
311. Harrison, Berkshire, exhibited by Frank Willson, Jackson, Mich. Bred by Chas Moe, Jackson, Mich. Farrowed May 20, 1879. Sire, Berkshire boar; dam, Berkshire sow.
312. Wentworth, Berkshire, exhibited by Frank Willson, Jackson, Mich. Bred by Chas. Moe, Jackson, Mich. Farrowed May 20, 1879. Sire, Berkshire boar; dam, Berkshire sow.

LOT 19—SMALL BREEDS; SUFFOLKS, ESSEX, SHORT FACED LANEASHIRE, ETC.

Hog two years old or over—5 entries:

313. Fred, Douglas, Essex, exhibited by J. A. Patten, Hennepin. Bred by W. J. Neely, Ottawa. Farrowed Dec 16, 1876. Sire, Imported Essex; dam, Essex sow.
314. Bess, Essex, bred and exhibited by Frank Willson, Jackson, Mich. Farrowed Sept. 15, 1877. Sire, Essex Boar; dam, Essex Sow.
315. Diamond, Essex, bred and exhibited by Frank Willson, Jackson, Mich. Farrowed Oct. 11, 1877. Sire, Essex Boar; dam, Essex sow.
316. Beauty, Essex, exhibited by Taylor Bros., Waynesville. Bred by Wm. Smith, Detroit, Mich. Farrowed July 10, 1877. Sire, Imported Duke; dam, Imported Molly.
317. Sallie, Essex, bred and exhibited by Taylor Bros., Waynesville. Farrowed May 10, 1878. Sire, Duke; dam, Sully.

Hog one and under two years—4 entries:

318. Sambo, Essex, bred and exhibited by J. A. Patten, Hennepin. Farrowed Oct. 5, 1878. Sire, Fred Douglas; dam, Black Beauty.
319. Mollie, Suffolk, bred and exhibited by Frank Willson, Jackson, Mich. Farrowed Sept. 18, 1878. Sire, Suffolk boar; dam, Suffolk sow.
320. Ravena, Essex, bred and exhibited by Frank Willson, Jackson, Mich. Farrowed July 22, 1878. Sire, Essex boar; dam, Essex sow.
321. Perfection, Essex, exhibited by Taylor Bros., Waynesville. Bred by A. Wiley & Son, New Augusta, Ind. Farrowed March 10, 1877. Sire, Perfection; dam, Young Sally.

Pig over six months and under one year—4 entries:

322. Juno, Victoria, bred and exhibited by Scheidt & Davis, Dyer, Ind. Farrowed November 15, 1878. Sire, Snowball, Victoria; dam, Lady Belle.
323. Janette, Victoria, bred and exhibited by Scheidt & Davis, Dyer, Ind. Farrowed November 15, 1878. Sire, Snowball, Victoria; dam, Lady Belle.
324. Mollie 2d, Suffolk, bred and exhibited by Frank Willson, Jackson, Mich. Farrowed March 15, 1879. Sire, Suffolk boar; dam, Suffolk sow.
325. Mollie 3d, Suffolk, bred and exhibited by Frank Willson, Jackson, Mich. Farrowed December 5, 1878. Sire, Suffolk boar; dam, Suffolk sow.

Pig under six months old—2 entries:

326. Jackson, Essex, bred and exhibited by Frank Willson, Jackson, Mich. Farrowed July 5, 1879. Sire, Essex boar; dam, Essex sow.
327. Miss Jackson, Essex, bred and exhibited by Frank Willson, Jackson, Mich. Farrowed July 5, 1879. Sire, Essex boar; dam, Essex sow.

LOT 20—GRADES AND-CROSSES.

Hog two years old or under—3 entries.

328. Miss Pinegar, grade Berkshire, exhibited by Hewer Bros., Belvidere. Bred by Wm. Pinegar, Belvidere. Farrowed July 23, 1877. Sire, Foreigner, 804; dam, grade Berkshire.
329. Princess, grade Berkshire, bred and exhibited by Scheidt & Davis, Dyer, Ind. Farrowed August 25, 1877. Sire, Berkshire boar; dam, Poland sow, Old Sallie.
330. Beauty, grade Berkshire, exhibited by Oliver, Fell & Miner, Toulon. Bred by Wm. Hixon, Toulon. Farrowed April 15, 1877. Sire, Berkshire boar; dam Poland sow.

Hog one and under two years—4 entries.

331. Grand Duchess, grade Suffolk, bred and exhibited by Scheidt & Davis, Dyer, Ind. Farrowed February 19, 1878. Sire, Suffolk, Bismark; dam, Chester White, Duchess
332. Duke, grade Suffolk, bred and exhibited by Scheidt & Davis, Dyer, Ind. Farrowed October 25, 1878. Sire, Bismark, Suffolk; dam, Poland-Berkshire sow.
333. Pet, grade Berkshire, exhibited by Oliver, Fell & Miner, Tonlon. Bred by McKenzie Bros., Toulon. Farrowed April 15, 1878. Sire, Berkshire boar; dam, Poland sow.
334. Rodney, grade Suffolk, exhibited by Frank Willson, Jackson, Michigan. bred by C. C. Pond, Jackson, Michigan. Farrowed Sept. 5, 1878. Sire, Suffolk boar; dam, grade Suffolk sow.

Pig over six months and under one year—3 entries:

335. King John, grade Suffolk, exhibited by Henry Davis, Dyer, Ind. Bred by Scheidt & Davis, Dyer, Ind. Farrowed Jan. 2, 1879. Sire, Suffolk-bismark; dam, Berkshire and Poland sow
336. Black Joe, Poland grade, bred and exhibited by B. J. Orton, Cambridge. Farrowed Dec. 15, 1878. Sire, Young Centennial; dam, Mrs. Brigham Young.
337. Lady, grade Victoria, bred and exhibited by Scheidt & Davis, Dyer, Ind. Farrowed Nov. 30, 1878 Sire, Snowball, Victoria; dam, Lilly Poland-Berkshire-Chester.

TABLE OF MEASUREMENTS, ETC.

No. of Animal.	CLASS, LOT AND NAME OF ANIMAL.	MEASURE- MENTS.		HEIGHT FROM GROUND.				Thickness thro' the crop	Length of back from top of sho'ld'r to loin	Width across the loins	Length of quar- ter from rump to loin	Depth fr'm loin to hook	Girth of paunch (middle)	Girth of throat latch	
		Length of carcass	Heart girth	Flank girth	Top line.		Bot. line.								
					Sho'ldr	Hip	Fore flank								Flank
CLASS A—CATTLE.															
Lot 1— <i>Shorthorns.</i>															
Steer 4 years or over.															
FIRST PREMIUM NO. 5—SECOND PREMIUM NO. 4.															
1	Dick	7 6	9	2	8	11	5	2	5	1	2	5	3	5	5
2	Sam	7 9	9	9	5	2	6	3	6	1	2	6	10	2	3
3	Van Meter.	7 2	8	10	5	4	5	3	4	2	2	9	9	6	3
4	Patron	7 6	8	6	8	7	4	3	5	2	2	10	9	2	3
5	Wm. Allen	7 4	8	5	8	5	1	3	4	2	3	10	9	5	6
Steer 3 and under 4 years.															
FIRST PREMIUM NO. 7—SECOND PREMIUM NO. 6.															
6	Eddie Morris	7 2	8	1	8	4	4	3	5	2	2	7	9	4	4
7	Nichols	6 10	8	2	8	5	4	3	1	2	2	9	9	3	3
Steer 2 and under 3 years.															
FIRST PREMIUM NO. 8—SECOND PREMIUM NO. 9.															
8	John Clay, Jr.	6 7	7	4	7	6	4	3	1	1	2	7	8	3	3
9	Romeo	6 8	7	1	7	4	7	3	...	1	10	6	7	10	5
10	Rowland	6 9	7	5	7	8	4	3	3	1	11	8	8	5	3
Steer 1 and under 2 years.															
FIRST PREMIUM NO. 11—SECOND PREMIUM NO. 15.															
11	Gaylord	6 5	6	9	7	...	4	2	2	1	10	4	7	3	1
12	Baynton	6 6	6	7	6	11	4	2	6	1	11	4	8	3	9
13	Conger	6 4	6	5	6	5	4	2	10	1	9	4	7	2	1
14	Belmont	6 4	6	7	6	7	4	2	8	1	9	5	7	3	3
15	Morris	6	6	5	7	...	4	3	1	1	9	4	7	3	...
Cow 3 years or over.															
FIRST PREMIUM NO. 18—SECOND PREMIUM NO. 22.															
16	Adella 2d	7	10	8	9	4	8	3	9	2	2	9	9	3	1
17	Barbara	6 10	7	6	8	...	4	3	6	2	1	9	8	3	3
18	Red Bettie	6 9	7	9	8	2	4	3	4	2	1	11	10	7	...

Steer 3 and under 4 years.

FIRST PREMIUM NO. 36.

36 Buok.....

Steer 2 and under 3 years.

NO ENTRIES.

Steer 1 and under 2 years.

FIRST PREMIUM NO. 37.

37 Honest Tom.....

Cow 3 years or over

FIRST PREMIUM NO. 38—SECOND PREMIUM NO. 39.

38 Marilla.....

39 Tilla.....

Lot 4—Other pure breeds (not named).

NO ENTRIES.

Lot 5—Gaites or Crosses.

Steer 4 years or over.

FIRST PREMIUM NO. 52—SECOND PREMIUM NO. 43

40 Col. W. Judy, grade Shorthorn.....

41 Gen. Logan, grade Devon.....

42 Dec. Woods, grade Shorthorn.....

43 Wels. Morris, grade Shorthorn.....

44 John Sherman, grade Shorthorn.....

45 T. C. Eastman, grade Shorthorn.....

46 Short. g. grade Shorthorn.....

47 Ned Smith, grade Shorthorn.....

48 Robert Burt, grade Shorthorn.....

49 Old Style, grade Shorthorn.....

50 Turner, grade Shorthorn.....

51 Ben. Agie Hereford.....

52 Gov. Morton, grade Shorthorn.....

53 Hoosier Boy, grade Shorthorn.....

54 Rob. Rogers, grade Shorthorn.....

55 Burnside, grade Shorthorn.....

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6	6	7	4	7	2	6	3	..	1	11	2	8	1	11	1	10	2	7	7	9	3	5		
5	7	5	6	5	7	3	11	4	1	1	10	2	4	2	1	6	1	7	2	2	6	4	2	8
6	6	6	6	11	4	2	2	1	9	2	1	9	2	4	7	8	2	8	2	4	7	8	2	8
5	7	5	6	5	7	3	11	4	1	1	10	2	4	2	1	6	1	7	2	2	6	9	2	7
7	7	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	10
7	6	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	
7	3	8	8	8	5	1	5	1	5	1	11	2	3	10	10	10	10	10	10	10	10	10	10	

TABLE OF MEASUREMENTS, ETC.—Continued.

No. of Animal	CLASS, LOT AND NAME OF ANIMAL.	MEASURE- MENTS.				HEIGHT FROM GROUND.				Depth from top line to lower should'r point.		Thickness thr'g the crop.....		Length of back from top of sho'ld'r to loin		Width across the loins. ...		Length of quar- ter from loin to rump.....		Depth fr'm loin to hook		Girth of paunch (middle)		Girth of throat latch.....									
		Length of carcass..	girth..	Heart	Flank	Sho'ldr	Hip ..	Fore flank.	Flank.																								
																										In	Ft.	In	Ft.	In	Ft.	In	Ft.
65	Red Chub, grade Shorthorn	7	2	7	4	9	7	3	5	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
66	S.m. grade Hereford	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
67	White Stocking, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
68	Captain, grade Hereford	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
69	Chub, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
70	Peter, grade Hereford	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
71	Capt Nels Morris, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
72	Colonel, grade Hereford	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
73	Geo Adams, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
74	Bement, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
75	Heavy Set, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
76	Barney McCue, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
77	Snowflake, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
78	Red Charley, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
79	Red Rover, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
80	Short, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
81	Lake, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
82	Downhorn, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
83	White Star, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
84	Bradshaw, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
85	Drake, grade Shorthorn	7	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
Steer 2 and under 3 years.																																	
FIRST PREMIUM NO. 88—SECOND PREMIUM NO. 87																																	
86	Charmet, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
87	Peter Cooper, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
88	Victoria, Duke grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
89	Beaules, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
90	Storry, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
91	Barney, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
92	Red Charley 2d, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
93	John Wood, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
94	S. E. Wood, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
95	Roan Chub, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										
96	Lake Fork, grade Shorthorn	6	10	7	3	4	4	3	3	2	10	2	4	2	2	3	11	9	1	3	2	10	3										

97 Wildy, grade Shorthorn	6	7	7	7	6	4	4	4	9	2	1	10	8	2	1	11	2	2	6	8	8	4	1
98 Fisher, grade Shorthorn	6	10	7	7	6	4	4	5	4	1	3	1	10	2	3	1	11	2	2	6	8	8	4
99 Barrow 20, grade Shorthorn	6	7	7	7	6	4	4	4	7	1	3	2	2	2	3	1	10	2	2	8	8	4	1
100 Lyle, grade Shorthorn	6	2	7	7	4	4	4	7	7	1	3	2	2	2	3	1	10	2	2	8	8	4	1
101 Nelson, grade Shorthorn	6	8	7	7	4	4	4	6	4	1	3	2	2	2	3	1	11	2	2	8	8	4	1
102 Rube, grade Shorthorn	6	8	7	7	4	4	4	6	4	1	3	2	2	2	3	1	11	2	2	8	8	4	1
103 Leo, grade Shorthorn	6	7	7	7	4	4	4	6	4	1	3	2	2	2	3	1	11	2	2	8	8	4	1
104 Earl, grade Shorthorn	6	7	7	7	4	4	4	6	4	1	3	2	2	2	3	1	11	2	2	8	8	4	1
105 Davis, grade Shorthorn	6	6	7	7	4	4	4	6	4	1	3	2	2	2	3	1	10	2	2	8	8	4	1
106 Ogle Duke, grade Shorthorn	6	10	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
107 Bowen, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
108 Curphy, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
109 Powers, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
110 Shea, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
111 Schuler, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
112 Rice, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
113 Dean, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
114 Taylor, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
115 Lewis, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
116 Buckles, grade Shorthorn	6	7	7	7	4	4	4	7	4	1	3	2	2	2	3	1	11	2	2	7	8	6	2
<i>Steer 1 and under 3 years.</i>																							
FIRST PREMIUM NO. 120—SECOND PREMIUM NO. 117.																							
117 Clare S. Reed, grade Shorthorn	6	6	6	6	7	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
118 Albert Pelt, grade Shorthorn	6	6	6	6	7	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
119 Blackstone, grade Shorthorn	6	1	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
120 McMullen, grade Shorthorn	6	4	6	6	7	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
121 Van Horn, grade Shorthorn	6	2	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
122 Charlton, grade Shorthorn	6	2	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
123 Jim Smith, grade Shorthorn	5	4	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
124 Whipple, grade Shorthorn	5	4	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
125 Hurlburt, grade Shorthorn	5	4	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
126 Vaughn, grade Shorthorn	5	4	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
127 Richards, grade Shorthorn	6	1	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
128 Larabee, grade Shorthorn	6	1	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
129 Hawks, grade Shorthorn	5	7	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
130 Putnam, grade Hereford	5	7	6	6	6	4	4	4	4	1	9	1	7	2	3	1	9	2	2	4	7	4	7
<i>Cow 3 years or over.</i>																							
NO ENTRIES.																							
<i>Lot 8—Car Loads.</i>																							
131 Happy Jack, grade Shorthorn	6	6	6	11	7	5	4	7	4	9	1	11	2	6	3	3	1	10	2	8	7	11	3
132 Jim, grade Shorthorn	6	9	7	1	7	1	4	6	4	6	1	11	2	6	3	3	1	10	2	8	7	11	3
133 Tom, grade Shorthorn	6	9	7	1	7	1	4	6	4	6	1	11	2	6	3	3	1	10	2	8	7	11	3
134 Bruh, grade Shorthorn	6	9	7	1	7	1	4	6	4	6	1	11	2	6	3	3	1	10	2	8	7	11	3

No. of Animal ...	CLASS, LOT AND NAME OF ANIMAL.	MEASURE-MENTS.				HEIGHT FROM GROUND.						
		Length of Carcass.	Girth.	Heart Girth.	Flank.	Top line.		Bot. line.		Flank.		
						Sh. lder.	Hip....	Fore Flank.	In.			
		Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	
CLASS C—SHEEP.												
Lot 12—Long Wools.												
Wether, 2 years or over.												
FIRST PREMIUM, 139; SECOND PREMIUM, 138.												
135	Quick, Cotswold.....	33	8	4	2	5	5	6	1	12	1	2
136	Slow, Cotswold.....	33	4	4	4	1	7	8	1	1	1	2
137	Dave Hall, Cotswold.....	33	3	3	9	3	11	3	1	1	1	2
138	George, Cotswold.....	33	5	4	7	4	3	6	1	13	1	4
139	Guelph, Leicester.....	33	3	4	10	4	5	3	1	13	1	7
140	Ontario, Leicester.....	33	1	4	8	4	2	3	1	1	1	3
141	Tom, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
Wether, 1 and under 2 years.												
FIRST PREMIUM, NO. 145; SECOND PREMIUM, NO. 144.												
142	Dick, Cotswold.....	33	1	3	11	4	1	2	3	11	1	..
143	Bob, Cotswold.....	33	1	3	5	3	9	4	1	1	1	1
144	Favorite, Cotswold.....	33	4	4	..	4	1	2	4	1	1	3
145	Snell, Cotswold.....	33	1	4	1	4	1	2	5	1	1	3
146	Model, Cotswold.....	21	11	3	8	3	10	2	4	1	1	3
Wether, under 1 year.												
SECOND PREMIUM, NO. 147.												
147	John, Cotswold....	33	1	3	3	3	4	2	1	2	3	1
Ewe, 2 years or over.												
FIRST PREMIUM, NO. 154; SECOND PREMIUM, NO. 148.												
148	Black Eye, Cotswold.....	33	3	4	9	4	9	2	5	1	1	2
149	Miss Simon, Cotswold.....	21	11	4	7	4	7	2	4	1	1	1
150	Jose, Cotswold.....	32	2	4	7	4	8	2	5	1	1	2
151	Sallie Mitchell, Cotswold.....	33	6	4	7	5	5	7	7	1	1	1
152	Elsie Cotswold.....	33	3	4	5	4	3	2	5	1	1	3
153	May-Day, Cotswold.....	33	4	4	4	4	3	2	5	1	1	2
154	Lady Snell, Cotswold.....	33	5	5	1	4	5	6	10	1	1	5
155	Lady Stone, Cotswold.....	32	4	3	4	2	2	2	5	1	1	4
156	Lady Waters, Cotswold.....	33	2	5	1	4	7	4	2	11	1	3
157	Teasle, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
158	Strawn 84, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
159	Strawn 348, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
160	Strawn 318, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
161	Strawn 320, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
162	Marion, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
163	Belle, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
Ewe, 1 and under 2 years												
FIRST PREMIUM, NO. 172; SECOND PREMIUM, NO. 170.												
164	Alice, Cotswold.....	33	1	3	6	3	10	2	4	1	1	2
165	Kate, Cotswold.....	33	2	3	9	4	1	2	4	1	1	1
166	Lady Kirby, Cotswold.....	33	3	4	2	4	3	2	3	1	1	1
167	Model Lady, Cotswold.....	21	11	3	9	3	11	2	5	1	1	3
168	Strawn 250, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
169	Strawn 249, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
170	Strawn 248, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
171	Strawn 247, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
172	Strawn 246, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
173	Strawn 245, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
174	Strawn 244, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
175	Strawn 243, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..
176	Strawn 242, Cotswold.....	..	..	..	..	..	..	..	..	..	..	..

TABLE OF MEASUREMENTS, ETC.—Continued.

No. of animal.....	CLASS, LOT AND NAME OF ANIMAL.	MEASURE- MENTS					HEIGHT FROM GROUND.						
		Length of carcass..	girth..	Heart girth..	Flank girth..	Top line.		Bot. line					
						Hip... In	Fore hank In	Flank. In	In				
										Sho'ldr In	Flank. In		
		Ft	In	Ft	In	Ft	In	Ft	In				
	<i>Ewe, under 1 year.</i>												
	FIRST PREMIUM, NO. 181; SECOND PREMIUM, NO. 180.												
177	Gem, Leicester	2	10	3	2	2	1	2	2	1	11	1	3
178	Gypsy, Cotswold	2	11	3	4	3	6	2	2	2	1	1	1
179	Topsy, Cotswold	2	11	3	4	3	6	2	2	2	1	1	1
180	Rose Kirby, Cotswold	2	11	3	4	3	6	2	2	2	1	1	1
181	Willson, Cotswold	2	11	3	4	3	6	2	2	2	1	1	1
	<i>Lot 13—Middle Wools.</i>												
	<i>Wether, 2 years or over.</i>												
	FIRST PREMIUM, NO. 190; SECOND PREMIUM, NO. 183.												
182	Wentworth, Southdown	3	2	3	5	3	5	2	1	11	10	11	1
183	Wesson, Southdown	3	6	3	10	3	10	2	3	1	1	1	2
184	Ed. Holton, Southdown	3	1	3	6	3	9	2	2	1	1	1	1
185	Edson, Southdown	3	2	3	7	3	8	2	2	1	1	1	1
186	Uncle Jake, Southdown	2	10	3	9	3	11	2	2	1	1	1	1
187	Nick, Southdown	3	5	4	3	4	6	2	2	1	1	1	1
188	Harvey, Southdown	3	6	3	9	4	1	1	11	11	9	9	9
189	Todd, Southdown	3	3	6	2	9	2	1	2	1	1	1	1
190	Grout, Southdown	2	10	3	11	4	5	2	4	5	1	1	2
191	Anderson, Southdown	3	4	1	4	3	2	4	2	4	11	11	1
192	Model Boy, Southdown	3	4	1	4	3	2	4	2	4	11	11	1
193	Harry, Oxford	3	4	1	4	3	2	4	2	4	11	11	1
194	Dick, Shropshiredown	3	4	1	4	3	2	4	2	4	11	11	1
195	Prince, Shropshiredown	3	4	3	10	4	3	2	4	5	1	1	2
	<i>Wether, 1 and under 2 years.</i>												
	FIRST PREMIUM, NO. 198; SECOND PREMIUM, NO. 199.												
196	Sam, Southdown	2	5	3	2	3	5	1	11	11	11	1	1
197	Jim, Southdown	2	7	3	1	3	3	2	2	1	11	1	1
198	Alvey, Southdown	3	5	3	7	3	9	2	3	2	1	1	2
199	J. M. Bird, Southdown	2	2	3	9	3	11	2	2	3	11	1	1
200	Jacob Bird, Southdown	2	11	3	8	4	11	2	2	4	1	1	2
201	Scott, Southdown	2	11	3	8	4	11	2	2	4	1	1	2
202	Arther, Southdown	2	11	3	8	4	11	2	2	4	1	1	2
203	James, Southdown	2	11	3	8	4	11	2	2	4	1	1	2
	<i>Wether, under 1 year.</i>												
	FIRST PREMIUM, NO. 204; SECOND PREMIUM, NO. 205.												
204	Bud Lucky, Southdown	2	3	2	9	2	11	1	10	1	1	1	1
205	T. J., Southdown	2	3	2	10	3	1	1	10	1	11	9	11
	<i>Ewe, 2 years or over.</i>												
	FIRST PREMIUM, NO. 208; SECOND PREMIUM, NO. 208.												
206	Queen, Shropshiredown	3	4	4	4	4	5	2	4	2	5	1	1
207	Beauty, Southdown	3	3	6	4	1	1	11	2	2	10	11	1
208	Lucy, Southdown	2	11	3	10	4	2	2	1	2	3	1	1
209	Bosrook, Shropshiredown	3	1	3	11	4	2	2	3	2	3	1	1
210	Lady Southdown, Southdown	2	11	3	8	4	2	1	11	2	1	10	11
211	Belle, Southdown	3	4	3	3	9	2	1	2	1	11	10	1
212	Queen, Southdown	2	11	3	10	4	1	2	1	2	1	11	1
213	Bess, Southdown	2	11	3	10	4	1	2	1	2	1	11	1
214	Armstrong, Southdown	3	3	4	4	4	2	3	2	3	1	1	2
215	Queen, Shropshiredown	3	3	4	4	4	2	3	2	3	1	1	2
	<i>Ewe, 1 and under 2 years.</i>												
	FIRST PREMIUM, NO. 216; SECOND PREMIUM, NO. 218.												
216	Burd, Shropshiredown	3	1	3	8	3	10	2	2	2	11	1	1
217	Lady Armstrong, Southdown	2	9	3	5	3	10	2	1	2	1	11	1
218	Rose Anderson, Southdown	2	8	3	7	3	11	1	11	1	10	11	1

TABLE OF MEASUREMENTS, Etc.—Continued.

No. of Animal.....	CLASS, LOT AND NAME OF ANIMAL.	MEASURE- MENT.				HEIGHT FROM GROUND.			
		Length of Carcass.	Girth. In.	Heart In.	Flank In.	Top line.		Fore Flank. In.	Flank. In.
						Shoulder In.	Hip In.		
	<i>Ewe, under 1 year.</i>								
	FIRST PREMIUM, NO. 219.								
219	Bess Armstrong, Southdown.....	25	30	3	5	110	110	10	11
	<i>Lot 11—Grades or Crosses.</i>								
	<i>Wether, 2 years or over.</i>								
	FIRST PREMIUM, NO. 225; SECOND PREMIUM, NO. 228.								
220	Palmer 1st, grade Cotswold.....	33	13	10	4	5	3	1	4
221	Dan, grade Cotswold.....	33	13	10	4	5	3	1	10
222	John, grade Cotswold.....	33	13	10	4	5	3	1	1
223	Ben, grade Cotswold.....	33	13	9	4	5	3	1	1
224	Jacob, grade Shropshire.....	33	13	10	4	5	3	1	1
225	Hudson, grade Shropshire.....	33	13	10	4	5	3	1	3
226	Moweaqua grade Shropshire.....	33	13	10	4	5	3	1	3
227	O. P., grade Southdown.....	33	13	10	4	5	3	1	3
228	Jim Griffith, grade Southdown.....	33	13	10	4	5	3	1	3
229	Barney, grade Southdown.....	33	13	10	4	5	3	1	1
230	Geo. Smith, grade Southdown.....	33	13	10	4	5	3	1	1
231	Campbell, grade Southdown.....	33	13	10	4	5	3	1	1
232	Farm Lad, grade Leicester.....	33	13	10	4	5	3	1	1
233	Farm Pride, grade Leicester.....	33	13	10	4	5	3	1	1
234	Robin, grade Leicester.....	33	13	10	4	5	3	1	2
235	John, grade Shropshire.....	33	13	10	4	5	3	1	1
236	Tom, grade Shropshire.....	33	13	10	4	5	3	1	1
237	Beauty, grade Shropshire.....	33	13	10	4	5	3	1	1
	<i>Wether, 1 and under 2 years.</i>								
	FIRST PREMIUM, NO. 217; SECOND PREMIUM, NO. 244.								
238	Palmer 2d, grade Cotswold.....	33	13	7	3	8	2	1	3
239	Henry, grade Leicester.....	33	13	7	3	8	2	1	1
240	Isaac, grade Leicester.....	33	13	7	3	8	2	1	1
241	Peter, grade Leicester.....	33	13	7	3	8	2	1	1
242	Elder, grade Southdown.....	33	13	7	3	8	2	1	10
243	Hesser, grade Southdown.....	33	13	7	3	8	2	1	10
244	Sudduth, grade Southdown.....	33	13	7	3	8	2	1	9
245	Moreland, grade Southdown.....	33	13	7	3	8	2	1	10
246	Taylor, grade Southdown.....	33	13	7	3	8	2	1	1
247	Richard, grade Cotswold.....	33	13	7	3	8	2	1	2
248	Oxford, grade Oxford.....	33	13	7	3	8	2	1	1
249	Oxford Boy, grade Oxford.....	33	13	7	3	8	2	1	1
	<i>Wether, under 1 year.</i>								
	FIRST PREMIUM, NO. 251; SECOND PREMIUM, NO. 250.								
250	William, grade Leicester.....	33	13	5	3	6	2	1	1
251	Arkel, grade Southdown.....	33	13	5	3	6	2	1	1
252	Hall, grade Cotswold.....	33	13	5	3	6	2	1	1
253	John Hall, grade Cotswold.....	33	13	5	3	6	2	1	1
	<i>Ewe, 2 years or over.</i>								
	FIRST PREMIUM, NO. 260; SECOND PREMIUM, NO. 255.								
254	Porter, grade Cotswold.....	33	13	11	4	1	3	1	1
255	Alice, grade Leicester.....	33	13	11	4	1	3	1	1
256	Grace, grade Leicester.....	33	13	11	4	1	3	1	1
257	Sallie, grade Cotswold.....	33	13	11	4	1	3	1	8
258	Susie, grade Cotswold.....	33	13	11	4	1	3	1	1
259	Jane, grade Cotswold.....	33	13	11	4	1	3	1	11
260	Lady Lincoln grade Leicester.....	33	13	11	4	1	3	1	1
261	Miss Stewart, grade Leicester.....	33	13	11	4	1	3	1	1
262	Lady Leicester, grade Leicester.....	33	13	11	4	1	3	1	11
263	Lady Stewart, grade Leicester.....	33	13	11	4	1	3	1	1

TABLE OF MEASUREMENTS, ETC.—Continued.

No. of Animal.....	CLASS, LOT AND NAME OF ANIMAL.	MEASURE- MENTS.			HEIGHT FROM GROUND.					
		Length of carness.	Heart girth..	Flank girth..	Top line. Bot. line					
					Sho'l'r	Hip...	Hank.	Fore	Flank.	
		Ft	In	Ft	In	Ft	In	Ft	In	Ft
<i>Ewe 1 and under 2 years.</i>										
FIRST PREMIUM NO. 266—SECOND PREMIUM NO. 265.										
264	Benedict, grade Cotswold	3	1	3	10	4	1	2	2	1
265	May, grade Leicester	3	1	3	7	2	10	2	2	1
266	Oxford Lass, grade Oxford.....	2	9	3	10	3	9	2	2	1
267	Quarrie, grade Southdown.....	..	..	..	10	..	..	..	..	..
<i>Ewe under 1 year.</i>										
FIRST PREMIUM NO. 267—SECOND PREMIUM NO. 268.										
268	Beauty, grade Cotswold.....	3	..	4	5	4	5	2	3	2
269	Ruth, grade Leicester.....	..	..	..	..	..	..	..	..	..
CLASS D—SWINE.										
Lot 18—Large Breeds, Poland China, Berkshire, Ches- ter White, etc.										
<i>Hog 2 years or over.</i>										
FIRST PREMIUM NO. 272—SECOND PREMIUM NO. 273.										
271	Young Centennial, Poland.....	5	10	6	4	6	7	8	5	3
272	Mrs. Tilton, Poland	5	5	5	18	5	10	2	11	3
273	Sallie, Poland.....	5	4	5	10	5	10	3	3	1
274	Young Champion, Poland	5	10	5	10	5	..	3	3	3
275	Queen of West, Poland	4	10	6	6	2	3	1	3	1
276	Highland Queen, Berkshire	5	3	5	10	5	6	3	3	1
<i>Hog 1 and under 2 years.</i>										
FIRST PREMIUM NO. 281—SECOND PREMIUM NO. 288.										
277	White Chap, Berkshire	5	..	5	5	5	4	2	8	8
278	Lop Ear, Berkshire.....	4	8	5	5	5	4	2	2	11
279	Captain Dick, Berkshire.....	4	11	5	4	4	4	2	11	3
280	Bob Howard, Poland	4	10	6	1	6	2	3	1	3
281	Chieftain, Jr., Poland	4	6	5	1	5	..	2	8	8
282	U. S. Grant, Poland	4	8	6	4	5	11	3	3	1
283	Sally's Prince, Poland.....	..	..	..	..	..	..	..	..	..
284	Grant, Poland.....	5	4	..	5	5	5	10	10	1
285	Negro, Poland	4	8	5	4	5	4	2	2	10
286	Jenny Lynd 3d, Poland.....	4	5	5	5	5	10	10	10	10
287	Summer Cloud, Poland.....	4	3	5	5	5	5	6	6	6
288	P. T. Barnum, Poland	4	5	5	5	5	10	10	10	10
289	Dolly Varden (5454), Berkshire	4	7	5	3	5	..	2	11	2
290	Grant, Berkshire .....	..	..	..	..	..	..	..	..	..
291	Sherman, Berkshire .....	..	..	..	..	..	..	..	..	..
<i>Pig 6 months and under 1 year.</i>										
FIRST PREMIUM NO. 297—SECOND PREMIUM NO. 295.										
292	Hagar 6th, Berkshire	4	1	4	5	4	4	2	6	2
293	Shoridan, Poland	3	8	4	4	4	4	2	2	6
294	Lennox, Poland	4	..	4	3	5	5	5	5	5
295	Bessie Turner, Poland	4	9	4	5	5	5	10	10	10
296	Beecher, Poland	4	3	5	5	5	5	5	5	5
297	Butcher's Boy, Poland	4	2	4	6	6	4	4	4	4
298	Queen Charlotte 4th, Poland	4	3	5	5	5	6	6	6	6
299	Empress, Berkshire.....	4	5	5	1	5	4	2	2	2
300	Eugenia, Berkshire.....	4	6	4	4	4	4	4	4	4
301	Pocahontas, Poland	4	..	4	6	4	6	2	2	2
<i>Pig under six months old</i>										
FIRST PREMIUM NO. 308—SECOND PREMIUM NO. 309.										
302	Lady Mary, Berkshire	2	11	3	..	3	..	1	9	1
303	Hopewell's Pet, Berkshire.....	3	3	3	5	3	4	1	11	2
304	Ida Walrath, Poland	3	3	3	8	3	7	2	2	1
305	Beauty, Poland	3	1	3	8	3	7	2	2	2
306	Poland Beauty, Poland	2	7	3	2	2	2	1	7	1
307	Queen, Berkshire	3	7	3	9	3	8	2	2	2
308	Dick, Berkshire	3	6	3	1	3	8	1	11	2

TABLE OF MEASUREMENTS, ETC.—Continued.

No. of Animal.....	CLASS, LOT AND NAME OF ANIMAL.	MEASURE- MENT.		HEIGHT FROM GROUND.					
		Length of Carcass.	Heart Grth. In.	Flank Grth. In.	Sh.lder Ft. In.	Hip Ft. In.	Top. line.		Bot. line. Ft. In.
							Fore Ft. In.	Flank. Ft. In.	
309	Victoria, Berkshire	33	4 3	5 5	3 3	3 3	..	4	5
310	Tom, Berkshire	33	4 3	5 7	3 3	3 3	..	4	4
311	Harrison, Berkshire .....	..	..	..	..	..	..	..	..
312	Wentworth, Berkshire .....	..	..	..	..	..	..	..	..
	<i>Lot 19—Small Breed—Suffolks, Essex, Short Faced Lancashire</i>								
	<i>Hog two years old or over.</i>								
	FIRST PREMIUM NO. 317.								
313	Fred Douglas, Essex .....	..	..	..	..	..	..	..	..
314	Bess, Essex	4 4	4 11	4 10	3 3	3 3	..	6	5
315	Diamond, Essex	4 8	5 3	5 5	3 3	3 3	..	5	4
316	Beauty, Essex	4 8	5 7	5 5	3 3	3 3	..	4	4
317	Sally, Essex	4 2	5 1	5 5	3 3	3 3	..	5	4
	<i>Hog one and under two years.</i>								
	FIRST PREMIUM NO. 319.								
318	Sambo, Essex .....	..	..	..	..	..	..	..	..
319	Mollie, Suffolk	4 4	4 9	4 10	3 3	3 3	..	5	4
320	Ravena, Essex .....	..	..	..	..	..	..	..	..
321	Perfection, Essex	4 2	5 1	5 5	3 3	3 3	..	4	3
	<i>Ptg six months and under one year.</i>								
	FIRST PREMIUM NO. 324—SECOND PREMIUM NO. 325								
322	Juno, Victoria	4 2	4 9	4 10	3 3	3 3	..	5	4
323	Janette, Victoria	4 5	5 4	5 3	3 3	3 3	..	4	4
324	Mollie 2d, Suffolk	4 2	4 8	4 9	3 3	3 3	..	7	6
325	Mollie 3d, Suffolk	3 9	4 7	4 6	3 3	3 3	..	4	5
	<i>Pig under six months.</i>								
	FIRST PREMIUM NO. 326—SECOND PREMIUM NO. 327								
326	Jackson, Essex	2 5	3 5	3 6	2 1	2 2	..	2	5
327	Miss Jackson, Essex	2 10	3 4	3 3	1 10	1 11	..	2	4
	<i>Lot 20—Grades or Crosses.</i>								
	<i>Hog two years or over.</i>								
	FIRST PREMIUM NO. 330—SECOND PREMIUM NO. 329.								
328	Miss Pinegar, grade Berkshire	5 3	6 3	6 4	3 4	3 3	..	6	5
329	Princess, grade Berkshire	4 8	5 6	5 2	3 10	3 9	..	4	5
330	Beauty, grade Berkshire	4 9	6 1	5 11	3 11	3 1	..	6	7
	<i>Hog one and under two years.</i>								
	FIRST PREMIUM NO. 333—SECOND PREMIUM NO. 332.								
331	Grand Duchess, grade Suffolk	4 3	5 5	5 3	3 10	3 10	..	5	3
332	Duke, grade Suffolk	4 5	5 12	5 1	3 8	3 9	..	4	5
333	Pet, grade Berkshire	4 4	5 8	5 8	3 8	3 9	..	4	4
334	Rodney, grade Suffolk	4 10	5 6	5 5	3 10	3 11	..	6	6
	<i>Pig six months and under one year.</i>								
	FIRST PREMIUM NO. 337—SECOND PREMIUM NO. 335.								
335	King John, grade Suffolk	4 4	5 2	4 9	2 7	2 8	..	4	4
336	Black Joe, grade Poland .....	..	..	..	..	..	..	..	..
337	Lady, grade Victoria	4 3	4 11	4 11	2 7	2 8	..	5	5
338	Charlie, grade Essex	4 5	4 11	4 10	2 7	2 8	..	5	5

REPORTS OF AWARDING COMMITTEES.

CLASS A—CATTLE.

LOT 1—SHORTHORN—THOROUGHBREDS.

Steers 4 years old or over—5 entries:

No.	Exhibiter.	Age in days Nov. 10, 1879...	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth ...	Name of Steer.
1	W. W. Penfield, Penfield, O.....	2,085	2,500	1.22	Dick.....
2	W. W. Penfield, Penfield, O.....	2,155	2,438	1.13	Sam.....
3	J. H. Graves, Chilesburg, Ky.....	1,943	2,445	1.25	VanMeter.....
4	Wing & Thompson, Bement, Ill.....	1,518	2,168	1.36	Patron.....
5	Wing & Thompson, Bement, Ill.....	1,578	2,240	1.42	Wm. Allen.....
Average.....		1,861	2,358	1.28	

First Premium, \$25 00, to steer Wm. Allen, exhibited by Wing & Thompson, Bement, Illinois.

Second premium \$15 00 to steer Patron, exhibited by Wing & Thompson, Bement, Ill.

REPORT OF COMMITTEE.

The ring was made up of a remarkably fine bunch of well developed steers; all were uniformly fat with flesh well distributed in the most valuable portions of the carcass. The animals reflected great credit upon the states in which they were fed, namely, Ohio, Kentucky and Illinois. The first premium steer was deep red in color, smooth and even throughout with straight top and bottom lines, broad deep loin well filled out, round smooth compact barrel. Short in leg with fine bone and small head. This steer excelled the others in the ring in having more good flesh in the back and loin with a small proportion of cheap unsaleable fat meat, with square, deep symmetrical quarters well covered down to knee and gambrel joint.

The Second premium Steer was deep red in color of superior quality and in prime condition for the block and in the main as good as the first premium Steer but was not as free from bunches of fat especially on the rump.

The remaining steers in this ring while worthy of special commendation were coarser and older than the prize winners and not as well filled out in shoulder and thigh and were patched.

The first premium steer was the youngest in the ring and showed the largest average gain per day since birth.

The Second premium Steer stood second in this respect.

Shorthorn Steer 3 and under 4 years—2 entries:

No.	Exhibitor.	Age in days Nov. 10, 1879.	Weight Nov. 10, 1879.....	Average gain per day since birth.....	Name of Steer.
44	John B. Sherman, Chicago, Ill.....	1,311	2,019	1.53	Eddie Morris.....
7	J. H. Graves, Chilesburg, Ky.....	1,335	2,080	1.54	Nichols.....
	Average.....	1,323	2,039	1.53½	

First premium, \$25 00 to steer Nichols, exhibited by J. H. Graves, Chilesburg Ky.

Second premium, \$15 00 to steer Eddie Morris, exhibited by John Sherman, Chicago, Ill.

REPORT OF COMMITTEE.

This ring consisted of two very superior well developed and evenly matched steers in point of age and weight.

The superior quality of the flesh and the proper distribution of the meat in the best parts of the carcass was particularly noticeable in both steers.

The first premium steer, a light roan, was perfectly smooth and free from bunches and a good handler. He was straighter on the back than his competitor, with better hind quarters. This steer was a low blocky heavy set steer, short in leg, fine bone, neat head well cut up under throat, short neck, broad and deep in brisket, broad straight back, heavy loin with thick round, well meated down to knee and gambriel joint.

The meat was firmer and more solid on the first-premium animal which was fatter and from all appearances would cut to better advantage and furnish meat of a superior quality.

The second premium steer was an extra well fattened red steer of great merit—was rather more leggy and coarser in head and bone than the other steer.

Shorthorn Steer 2 and under 3 years—3 entries:

No.	Exhibitor.	Age in days Nov. 10, 1879..	Weight Nov. 10, 1879.....	Average gain per day since birth.....	Name of Steer.
8	J. N. Brown Sons, Berlin, Ill.....	845	1,636	1.93	John Clay, Jr.....
9	J. N. Brown Sons, Berlin, Ill.....	814	1,449	1.78	Romeo.....
10	A. F. Moore, Polo, Ill.....	953	1,786	1.87	Kowland.....
	Average.....	871	1,624	1.86	

First premium, \$25 00 to steer John Clay, Jr., bred and exhibited by J. N. Brown Sons, Berlin, Ill.

Second premium, \$15 00 to steer Romeo, bred and exhibited by J. N. Brown Sons, Berlin, Ill.

REPORT OF COMMITTEE.

This ring was composed of three very superior steers showing unusual development and ripeness for age. In size, symmetry and distribution of meat in the best cuts they would pay the butcher the largest per centage of profit and furnish the consumer with the best quality of first class meat.

The first premium steer was red in color, had the best back and loin of the three steers and showed the greatest development for age, was the smoothest steer, with smaller head and lighter in horn, small neat short neck with the widest and deeper breast, better in-width of back and thickness in loin. This steer was smooth and free from bunches with firm, solid and mellow flesh. The quarters were heavy and well proportioned, and well fitted down to knee and gambriel joint. The shortness in leg and fineness of bone is worthy of special mention.

The second premium steer was a rich roan, not as evenly fattened and was more uneven in top and bottom line than the first premium steer.

Shorthorn Steers 1 and under 2 years—5 entries:

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1879.	Average gain per day in lbs since birth....	Name of Steer.
11	J. N. Brown Sons, Berlin.....	701	1,316	1.87	Gaylord ..
12	J. N. Brown Sons, Berlin.....	697	1,338	1.93	Boynton ..
13	J. N. Brown Sons, Berlin.....	687	1,193	1.79	Conger ..
14	J. N. Brown Sons, Berlin....	542	1,249	2.80	Belmont ..
15	J. N. Brown Sons, Berlin.....	585	1,240	2.11	Morris.....
Average		638	1,287	2.00	

First premium, \$25 00, to steer Gaylord, bred and exhibited by J. N. Brown Sons, Berlin.

Second premium, \$15 00 to steer Morris, bred and exhibited by J. N. Brown Sons, Berlin.

REPORT OF COMMITTEE.

The five yearling steers shown in this ring were very uniformly even throughout and considering age, were well matured and remarkably fat with large weights and average gain per day—the quality of meat and its distribution in the most valuable portions of the carcass was all that the experienced butcher could desire for profit, and satisfaction to his critical customers.

All the animals exhibited in this ring gave unmistakable evidence of superior breeding and purity of blood, as well as the most skillful feeding and handling.

The steers were most evenly mated as to size, age and weight, and there was so little difference in points of excellence that the most critical examination and handling was necessary to make a decision. The measurements and weights indicated great compactness and solidity of flesh.

The first premium steer was the smoothest with better top and bottom lines and somewhat better proportioned throughout.

This steer had smaller head and the neck was thin and shorter than the others.

The steer awarded the second premium showed the greatest average gain per day (2.30) of any in the ring—was not as good in the round and thighs and was a little coarser in the head but in other respects was equal to the first premium steer.

Shorthorn Cow 3 years or over—3 entries:

No.	Exhibiter.	Age in days, Nov. 10, 1879.	Weight Nov. 10, 1879.....	Average gain per day in lbs since birth....	Name of Cow.
16	Dexter Curtis, Madison, Wis.	2,560	2,042	0.70	Adelia 2d.
17	Dexter Curtis, Madison, Wis.	3,687	1,936	0.52	Barbana ..
18	R. K. & A. S. Brownlee, Long Grove, Iowa	2,035	1,789	0.86	Red Bettie
19	Sam. E. Prather, Sherman	2,731	1,833	0.87	Second Rose York.....
20	Sam. E. Prather, Sherman	1,186	1,525	1.25	5th Miss Morton of Riverdale
21	W. F. Gordon, Liberty, Mo.....	3,064	1,901	0.62	8th Belle Liberty
22	W. F. Gordon, Liberty, Mo.....	2,241	1,689	0.74	Missouri Belle 2d.....
23	Wing & Thompson, Berment ..	1,428	1,616	1.13	Diana ..
Average		2,364	1,786	.81	

First premium, \$25 00 to cow Red Bettie, exhibited by R. K. and A. S. Brownlee, Long Grove, Iowa.

Second premium, \$15 00 to Missouri Belle 2d, bred and exhibited by W. F. Gordon, Liberty, Mo.

REPORT OF COMMITTEE

The ring consisted of eight cows of unusual excellence as a lot, showing great differences, however, in the matter of age, type, form, and mode of handling. The aged animals were uneven and carried too large a proportion of meat of inferior quality and some were very badly patched.

The cows averaged over six years in age and some were over ten years old.

Some of the old breeding cows were very undesirable for the block and the meat would not be rated as even medium.

The first premium cow was a deep red and of the lot, the finest in bone, head and neck, the smoothest and best proportioned throughout, with an extra well filled fore and hind quarter. In the great depth and in the distribution of solid, mellow flesh, straight top and bottom line, broad back and thick loin, this cow excelled.

The second premium cow was somewhat coarser in head and not as smooth or evenly fattened, and rather deficient in back and loin, otherwise as good as the first premium animal.

LOT 2—HEREFORD THOROUGHbred.

Hereford Steers four years old or over—4 entries.

No.	Exhibitors.	Age in days Nov. 10, 1879.	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of steer.
24	John B. Sherman, Chicago.....	1,697	1,930	1.37	Blake
25	John B. Sherman, Chicago.....	1,689	1,974	1.17	Hubbard.....
26	Thos. Clark, Beecher ..	1,495	2,030	1.35	Royal
27	T. L. Miller, Beecher ..	1,677	2,043	1.22	John
Average		1,639	1,994	1.28	

First premium \$25 00 to steer John, exhibited by T. L. Miller, Beecher.

Second premium \$15 00 to steer Hubbard, exhibited by John B. Sherman, Chicago.

REPORT OF COMMITTEE.

The steers in this ring in all that goes to make a desirable carcass for the block, were very evenly mated.

The animals were well matured and in form and handling gave evidence of the best condition of ripeness to ensure flesh of superior quality.

Considering age and fatness the animals were smooth and free from patches and retained good symmetry to a remarkable degree.

The steers were low and blocky in form with rather heavy fore-quarter when compared with hind-quarter. In head and neck the steers were too heavy to enable the butcher to cut to the greatest profit.

The first premium steer had the straightest top and bottom lines with the broadest back and deepest loin, was better quartered than his competitors and was neater in the head and lighter in the chuck.

This steer was an extra handler and had all the characteristics of a very superior butcher's steer, with flesh of fine grain and extra quality.

Was low and blocky and shorter in leg with smaller head and neck than the others in the ring and in point of finish would be rated a first class butcher's steer approaching a very high standard of perfection.

The second premium steer was somewhat heavier in head, horns and neck than the animal awarded the first prize, quarters not in as good proportion rather more paunchy with heavier bone—back not as broad, or loin as deep.

In other material points there was but slight difference. All the animals in this ring would be rated first class butcher's steers, ripe for the block and of a quality that could hardly be improved.

Hereford Steer three and under four years—2 entries:

No.	Exhibiter.	Age in days Nov. 10, 1879..	Weight Nov. 10, 1879	Average gain per day in lbs. since birth....	Name of Steer.
28	Thomas Clark, Beecher.....	1,430	1,979	1.39	Bright.....
29	T. L. Miller, Beecher	1,359	1,968	1.44	Merryman
	Average.....	1,389	1,973	1.41	

First premium, \$25 00; to steer Merryman, exhibited by T. L. Miller, Beecher.
Second premium, \$15 00; to steer Bright, exhibited by Thomas Clark, Beecher.

REPORT OF COMMITTEE.

There were but two steers in this ring, and in age, size, weight and form were most evenly matched. The steer awarded the first premium was rather neater in head and neck, with finer brisket, and more even top and bottom line; the quarters were in rather better proportion. This steer was smoother, and more compact and round; better in the twist, finer in bone, and the best handler of the pair. The steers were both extra beef animals, well matured and in prime condition for the block; would dress a much larger proportion of valuable meat to gross than the average of the best steers marketed; and as butchers we are confident that the animals would cut to the greatest profit, and furnish a very superior quality of meat.

Hereford Steer 2 and under 3 years—1 entry:

No.	Exhibiter.	Age in days Nov. 10, 1879.	Weight Nov. 10, 1879.	Average gain per day in lbs. since birth....	Name of Steer.
30	T. L. Miller, Beecher	939	1,474	1.57	Alex.....

First premium \$25 00 to steer Alex, exhibited by T. L. Miller, Beecher.

REPORT OF COMMITTEE.

There was but one steer in this ring, which would have been worthy of first prize in a large ring of choice cattle fed for the Christmas market. He was low, blocky and heavy set, with a small, neat head and neck, fine in bone, round compact and solid body, good in the hip and round quarters well filled, with a very large proportion of loin to the gross.

The animal had a large eye, with placid expression, denoting extra feeding qualities, muzzle fine, nostrils wide, indicating good respiratory organs, ribs well sprung, giving abundance of heart room, ensuring good constitution, all of which points are essential in a steer to ensure the best results to the breeder, feeder and consumer.

Hereford Steer one and under two years—3 entries.

No.	Exhibiter.	Age in days Nov. 10, 1879.	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Steer.
31	T. L. Miller, Beecher.....	712	1,397	1.96	General....
32	T. L. Miller, Beecher.....	500	1,114	2.23	Will.....
33	T. L. Miller, Beecher.....	518	1,180	2.27	Washington
	Average.....	577	1,230	2.15	

First premium, \$25 00; to steer General, exhibited by T. L. Miller, Beecher.
Second premium, \$15 00; to steer Will, exhibited by T. L. Miller, Beecher.

REPORT OF COMMITTEE.

The three animals entered in this ring were very superior specimens of well-fatted butchers' steers, showing remarkable development and ripeness, for the age. The first-premium steer was the oldest and heaviest steer in the ring; had the neatest head, finer and shorter in neck, with quarters in better proportion, thick crop and well-packed back. This steer excelled in the length and breadth and depth of loin; had good top and bottom lines, with square hind quarters, well filled down to gambriel joint; was an extra handler, giving every assurance of a superior quality of marbled flesh. The general appearance and handling of the steer denotes good feeding qualities, vigorous health and rapid growth. The second-premium steer was the youngest of the three; not as well developed, but with form and quality that, with age, will insure the maturing of a steer equally as good as the first-prize animal.

LOT 2—HEREFORD—THOROUGHbred.

Hereford Cow 3 years old or over—2 entries:

No.	Exhibitor.	Age in days Nov. 10, 1879	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Cow.
34	T. L. Miller, Beecher	2,018	1,730	0.85	Jennie
35	Thos. Clark, Beecher	5,309	1,500	0.28	Nellie
Average		3,663	1,615	.56	

First premium, \$25 00, to cow Jennie, exhibited by T. L. Miller, Beecher.

Second premium, \$15 00, to cow Nellie, exhibited by Thos. Clark, Beecher.

REPORT OF COMMITTEE.

The two cows entered in this ring were in prime condition for the block and would cut to the best advantage and profit.

The first premium cow was a specimen of bovine perfection seldom seen a combination of all the noted points which form a perfect beef animal so nicely blended together as to form an object of beauty to the eye and furnish a carcass of the most value to the raiser, the butcher, and a superior quality of food to the consumer. This model of its kind unfortunately proved, from natural causes, barren, and never produced any offspring, which can only be regarded as a loss to the race of cattle as well as the country.

The second premium cow was an animal fourteen years old, that has produced thirteen living calves.

This grand old mother yet retains the fine form of a superior animal that would be prized in one of younger years. Her fine head and neat neck, attached to a long and level body, mounted on short but fine boned limbs.

LOT 3.—DEVONS—THOROUGHbred.

Devon Steer four years old or over—no entry.

Devon Steer three and under four years—1 entry.

No.	Exhibitor.	Age in days....	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Steer.
36	L. F. Ross, Avo n	1,335	1,509	1-12	Buck

REPORT OF COMMITTEE.

There was but one entry in this ring; a very superior and profitable steer for the butcher. The steer would dress a very large proportion of the most valuable meat to gross weight. The heavy hind quarters, good top and bottom lines, were noticeable, as well as the neat head and neck, and small horn and fineness of bone.

The steer could be improved by continued feeding, but very nearly approached the standard most desired by the butcher who takes pride in providing his customers with an extra quality of meat.

Devon Steer two and under three years—no entry.

Devon Steer, 1 and under 2 years—1 entry:

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of steer.
37	L. F. Ross, Avon	483	844	1.74	Honest Tom.....

First premium \$25 00, to steer Honest Tom, exhibited by L. F. Ross, Avon, Illinois.

REPORT OF COMMITTEE.

There was but one entry in this ring, a very creditable specimen of the breed, having all the essential points necessary with age to make a first-class butchers' bullock.

Devon Cow, 3 years old or over—2 entries:

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of cow.
38	L. F. Ross, Avon	3,490	1,264	0.36	Marilla
39	Bruno Gansel, Hyde Park	1,460	966	0.66	Tilla.....
Average		2,475	1,115	0.51	

First premium, \$25 00 to cow Marilla, exhibited by L. F. Ross, Avon.

Second premium, \$15 00. to cow Tilla, exhibited by Bruno Gansel, Hyde Park.

REPORT OF COMMITTEE.

The first premium was awarded a very fat cow, with good top and bottom lines, well proportioned throughout, with distribution of meat of an extra quality in the best part of the carcass. The cow was fine in bone, with small head and neck, and would out to great profit.

The second premium cow was not in prime condition for the block, and with competition would not have been considered worthy of a premium.

LOT 5—GRADES OR CROSSES.

Steers, 4 years old or over—17 entries.

No.	Exhibiter.	Age in days.....	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of steer.	Breed.
40	John B. Sherman, Chicago ..	2,399	2,500	1.04	Col. Judy.....	Grade Shorthorn.
41	John B. Sherman, Chicago ..	2,399	2,473	1.03	Gen. Logan.....	Grade Devon....
42	John B. Sherman, Chicago ..	2,399	2,179	0.90	Doc. Wood.....	Grade Shorthorn..
43	John B. Sherman, Chicago ..	2,399	2,840	1.18	Nels. Morris.....	Grade Shorthorn..
44	John B. Sherman, Chicago ..	1,669	2,309	1.38	John Sherman.....	Grade Shorthorn..
45	J. D. Gillett, Elkhart	1,639	2,380	1.45	T. C. Bashman.....	Grade Shorthorn..
46	J. D. Gillett, Elkhart	1,639	2,116	1.29	Shortie	Grade Shorthorn..
47	J. D. Gillett, Elkhart	1,608	2,020	1.25	Ned. Short.....	Grade Shorthorn..
48	J. D. Gillett, Elkhart	1,573	2,118	1.34	Vanderbilt	Grade Shorthorn..
49	J. D. Gillett, Elkhart	1,608	2,161	1.34	Rob't Burns	Grade Shorthorn..
50	J. D. Gillett, Elkhart	1,530	2,137	1.39	Old Style	Grade Shorthorn..
51	J. H. Graves, Chilesb'g, Ky. .	1,613	2,820	1.74	Turner	Grade Shorthorn..
52	T. L. Miller, Beecher.....	1,730	2,134	1.19	Ben	Grade Hereford..
53	Geo. Gray, Rushville, Ind. .	2,374	2,835	1.19	Gov. Morton	Grade Shorthorn..
54	Geo. Gray, Rushville, Ind. .	1,994	2,552	1.28	Hoosier Boy	Grade Shorthorn..
55	John B. Sherman, Chicago ..	1,669	2,060	1.25	Bob. Ingersoll..	Grade Shorthorn..
56	J. Lequatte, Burnside.....	2,412	2,678	1.11	Burnside	Grade Shorthorn..
Average		1,923	2,373	1.25		

First premium, \$25 00, to grade Hereford steer Ben, exhibited by T. L. Miller, Beecher, Illinois.
 Second premium, \$15 00, to grade Shorthorn steer Vanderbilt, bred and exhibited by John D. Gillett, Elkhart, Ill.

REPORT OF COMMITTEE.

The ring for aged steers was filled with seventeen animals of superior excellence as a class. With some exceptions the cattle were in prime condition for the block.

The oldest steers in the ring, however, were past the stage of perfection for furnishing meat of good quality. They were uneven, patchy and undesirable. As choice bullocks they were not considered even fair competitors with steers just reaching maturity, thus clearly establishing the fact that an animal when once fully matured and ripe for the block cannot long be retained in prime condition.

The tendency of an animal after having reached the best condition is to accumulate bunches of undesirable meat and the rapid decline in value and quality of the meat of such animals demonstrates the necessity of pushing animals in feed to the earliest maturity to insure the best results to the feeder, butcher and consumer.

The profit to the feeder and butcher is the greatest with animals that can be matured for the block at the earliest age and to encourage this important and essential departure from the prevailing and unprofitable custom of continued feeding of aged animals. Your committee beg leave to suggest that no premiums be offered in future for cattle exceeding three years of age.

The first premium was awarded to a high grade Hereford steer, which, in some points, excelled all others in the ring. The fineness of bone, thin horn, small, neat head and very short neck with straight top and bottom lines of this superior steer were noticeable.

The steer had a broad back and deep, well filled loin and round, was a good handler and the solid mellow flesh was evenly distributed in the best parts of the carcass.

The handling qualities of this steer indicated a very superior quality of well marbled meat and the good back and loin and heavy quarters ensure a very large proportion of net to gross.

The second premium steer, a deep red, high grade Shorthorn, was equal in many respects of the first premium steer—was hardly as fat, a little heavier in bone with heavier fore quarter in proportion to hind quarter, but the difference between the first and second premium steers, in points of superior excellence, was very slight.

LOT 5—GRADES OR CROSSES.

Steer three years old and under 4 years—29 entries.

No.	Exhibitor.	Age in days....	Weight Nov. 10, 1919.....	Average gain in pounds since birth....	Name of steer.	Breed.
57	L. F. Ross, Avon.....	1,254	1,649	1.31	Jim Lockwood....	Grade Devon...
58	J. H. Graves Chilesburg, Ky.....	1,394	1,981	1.40	Barrow.....	Grade Shorthorn...
59	L. F. Ross, Avon.....	1,288	1,685	1.30	Number One....	Grade Devon...
60	T. L. Miller, Beecher.....	1,304	1,886	1.44	Billy.....	Grade Hereford...
61	T. W. Hunt, Ashton.....	1,294	1,988	1.53	Thad. Stevens....	Grade Shorthorn...
62	T. L. Miller, Beecher.....	1,274	1,991	1.56	Barney.....	Grade Hereford...
63	T. W. Hunt, Ashton.....	1,269	1,796	1.41	Rowdy Boy.....	Grade Shorthorn...
64	T. L. Miller, Beecher.....	1,274	1,842	1.44	Frank.....	Grade Hereford...
65	J. D. Gillett, Elkhart.....	1,288	2,094	1.63	Red Chub.....	Grade Shorthorn...
66	T. L. Miller, Beecher.....	1,243	1,829	1.47	Sam.....	Grade Hereford...
67	J. D. Gillett, Elkhart.....	1,248	1,850	1.48	White Stocking..	Grade Shorthorn...
68	T. L. Miller, Beecher.....	1,274	1,769	1.38	Captain.....	Grade Hereford...
69	J. D. Gillett, Elkhart.....	1,277	1,946	1.54	Chub.....	Grade Shorthorn...
70	T. L. Miller, Beecher.....	1,274	1,823	1.44	Peter.....	Grade Hereford...
71	J. D. Gillett, Elkhart.....	1,151	2,024	1.76	Capt. Nels. Morris	Grade Shorthorn...
72	T. L. Miller, Beecher.....	1,243	1,840	1.48	Colonel.....	Grade Hereford...
73	J. D. Gillett, Elkhart.....	1,151	1,986	1.72	Geo. Adams.....	Grade Shorthorn...
74	Wing & Thompson, Bement.....	1,132	1,970	1.74	Bement.....	Grade Shorthorn...
75	J. D. Gillett, Elkhart.....	1,309	2,134	1.13	Heavy Set.....	Grade Shorthorn...
76	J. D. Gillett, Elkhart.....	1,304	2,303	1.75	Barney McCue...	Grade Shorthorn...
77	J. D. Gillett, Elkhart.....	1,257	1,978	1.57	Snow Flake.....	Grade Shorthorn...
78	J. D. Gillett, Elkhart.....	1,248	2,125	1.70	Red Charley.....	Grade Shorthorn...
79	J. D. Gillett, Elkhart.....	1,314	2,031	1.54	Red Rover.....	Grade Shorthorn...
80	J. D. Gillett, Elkhart.....	1,237	1,838	1.46	Short.....	Grade Shorthorn...
81	J. D. Gillett, Elkhart.....	1,279	2,123	1.66	Lake.....	Grade Shorthorn...
82	J. D. Gillett, Elkhart.....	1,269	2,307	1.81	Downhorn.....	Grade Shorthorn...
83	J. D. Gillett, Elkhart.....	1,288	1,972	1.53	White Star.....	Grade Shorthorn...
84	J. D. Gillett, Elkhart.....	1,274	1,868	1.46	Bradshaw.....	Grade Shorthorn...
85	J. D. Gillett, Elkhart.....	1,274	1,799	1.41	Duke.....	Grade Shorthorn...
Average		1,262	1,940	1.18		

First premium, \$25 00, to grade Short Horn steer, Thad Stevens, exhibited by F. W. Hunt, Ashton.

Second premium, \$15 00, to grade Devon steer, Jim Lockwood, exhibited by L. F. Ross, Avon.

REPORT OF COMMITTEE.

This ring was composed of that class of animals where the judgement of experts might honestly disagree. So even that it required the finest discrimination to decide between their respective merits. They were unusually ripe for the age, and free from bunches of fatty matter; yet they were deep in flesh, showing a smooth outline, with handling qualities that to the hand of the experienced butcher told the value of the carcass for the consumer.

The first prize was awarded to a high grade Short Horn steer with a neat head, large and mild eye, fine muzzle, neck slender at the connection with the head and enlarging without coarseness to the shoulder which had a moderate slant, giving a deep crop. The quarters long level, and flank low and thick. Tail and limbs fine, giving in all parts of the animal a small proportion of offal.

The second prize was awarded to a high grade Devon steer. This animal had many of the fine points of the first prize animal. Was fully as ripe, and was considered as entitled to the second place as presenting the form of a desirable animal for the purposes intended.

LOT 3.--GRADES OR CROSSES.

Steer two and under three years.—31 entries.

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1893.....	Average gain per day in lbs. since birth...	Name of Steer	Breed,
86	T. W. Hunt, Ashton.....	1,060	1,742	1.64	Charmer	Grade Shorthorn..
87	T. W. Hunt, Ashton.....	1,060	1,534	1.44	Peter Cooper....	Grade Shorthorn..
88	T. W. Hunt, Ashton.....	932	1,532	1.64	Victoria Duke....	Grade Shorthorn..
89	J. D. Gillett, Elkhart.....	993	1,913	1.92	Beaerieg	Grade Shorthorn..
90	J. D. Gillett, Elkhart.....	965	1,696	1.75	Sherty	Grade Shorthorn..
91	J. D. Gillett, Elkhart.....	977	2,081	2.12	Barney	Grade Shorthorn..
92	J. D. Gillett, Elkhart.....	991	1,912	1.95	Red Charley 2d ..	Grade Shorthorn..
93	J. D. Gillett, Elkhart.....	984	1,700	1.72	John Wood	Grade Shorthorn..
94	J. D. Gillett, Elkhart.....	914	1,692	1.79	S. E. Wood	Grade Shorthorn..
95	J. D. Gillett, Elkhart.....	939	1,809	1.89	Roan Chub	Grade Shorthorn..
96	J. D. Gillett, Elkhart.....	939	1,616	1.75	Lake Fork	Grade Shorthorn..
97	J. D. Gillett, Elkhart.....	978	1,787	1.72	Wildy	Grade Shorthorn..
98	J. D. Gillett, Elkhart.....	939	1,869	1.90	Fisher	Grade Shorthorn..
99	J. H. Graves, Chilesb'g, Ky	1,024	1,652	1.61	Barrow 2d	Grade Shorthorn..
100	J. H. Graves, Chilesb'g, Ky	970	1,697	1.65	Lytle	Grade Shorthorn..
101	Amos F. Moore, Polo.....	939	1,813	1.73	Nelson	Grade Shorthorn..
102	Amos F. Moore, Polo.....	919	1,633	1.77	Rube	Grade Shorthorn..
103	Amos F. Moore, Polo.....	1,061	1,633	1.54	Leo	Grade Shorthorn..
104	Amos F. Moore, Polo.....	920	1,633	1.77	Barid	Grade Shorthorn..
105	Amos F. Moore, Polo.....	918	1,633	1.77	Davis	Grade Shorthorn..
106	Amos F. Moore, Polo.....	934	1,633	1.74	Ogle Duke	Grade Shorthorn..
107	J. D. Gillett, Elkhart.....	909	1,693	1.86	Bowen	Grade Shorthorn..
108	J. D. Gillett, Elkhart.....	993	1,693	1.69	Curphy	Grade Shorthorn..
109	J. D. Gillett, Elkhart.....	970	1,693	1.74	Powers	Grade Shorthorn..
110	J. D. Gillett, Elkhart.....	909	1,693	1.61	Shea	Grade Shorthorn..
111	J. D. Gillett, Elkhart.....	892	1,693	1.90	Schuler	Grade Shorthorn..
112	J. D. Gillett, Elkhart.....	909	1,693	1.64	Bigs	Grade Shorthorn..
113	J. D. Gillett, Elkhart.....	878	1,693	1.93	Dean	Grade Shorthorn..
114	J. D. Gillett, Elkhart.....	923	1,693	1.83	Taylor	Grade Shorthorn..
115	J. D. Gillett, Elkhart.....	909	1,693	1.61	Lewis	Grade Shorthorn..
116	J. D. Gillett, Elkhart.....	892	1,693	1.90	Buckles	Grade Shorthorn..
Average		954	1,710	1.77		

*Average weight of lot.

First premium, \$25 00, to grade Shorthorn steer Peter Cooper, exhibited by T. W. Hunt, Ashton.

Second premium, \$15 00, to grade Shorthorn steer Victoria Duke, exhibited by T. W. Hunt, Ashton.

REPORT OF COMMITTEE.

This ring was composed of thirty-one steers showing a large growth in weight, but were not so well developed in form as to present that uniformity as a lot like the preceding ring. Age would no doubt improve many of the lot, but there was a marked deficiency in the backs of some that showed a natural defect. Some were too thin in the chops, low on the loin and high in the rump. The head, neck and quarters were as a lot good the greatest defect being that mentioned. This deficiency in such a valuable part of the carcass should be remedied by the breeders to insure the best and most valuable beast.

The first prize was awarded to a grade shorthorn which in the judgment of the committee possessed the greater number of good points, showing fine development for the age, having a fine head and short well tapered neck, shoulder points well covered and good thickness through the crops and heart, the ribs were well sprung and close up to the loin bone, which was not too prominent and level with the line in the back. The quarter was long and level but the tail was set on a trifle above the line.

The top and bottom line were nearly on a parallel, with good thickness in flanks. The lines through the beast were very fine, and the percentage of offal was small.

The second premium was awarded to a grade shorthorn which approached very closely to the general form of the first prize animal, excepting he was not so fine in head and neck or bone and showed less development for the age.

LOT 5—GRADES OR CROSSES.

Steer one and under two years—14 entries.

No.	Exhibiter.	Age in days..	Weight Nov. 10, 1898.....	Average gain per day in lbs since birth...	Name of Steer.	Breed.*
117	J. D. Gillett, Elkhart.....	544	1,300	2.39	Clare S. Reed....	Grade Shorthorn.
118	J. D. Gillett, Elkhart.....	544	1,401	2.57	Albert Pell	Grade Shorthorn.
119	J. D. Gillett, Elkhart.....	513	1,300	2.53	Blackstone	Grade Shorthorn..
120	J. D. Gillett, Elkhart.....	605	1,196	1.97	McMullen.....	Grade Shorthorn..
121	J. D. Gillett, Elkhart.....	513	1,300	2.53	Van Horn	Grade Shorthorn..
122	J. D. Gillett, Elkhart.....	544	1,300	2.39	Charlton	Grade Shorthorn..
123	J. D. Gillett, Elkhart.....	513	1,373	2.07	Jim Smith	Grade Shorthorn..
124	J. D. Gillett, Elkhart.....	544	1,236	2.27	Whipple	Grade Shorthorn..
125	J. D. Gillett, Elkhart.....	544	1,300	2.39	Hurlbut	Grade Shorthorn..
126	J. D. Gillett, Elkhart.....	544	1,300	2.39	Vaughn	Grade Shorthorn..
127	J. D. Gillett, Elkhart.....	544	1,351	2.48	Richards	Grade Shorthorn..
128	J. D. Gillett, Elkhart.....	544	1,400	2.57	Larrabee.....	Grade Shorthorn..
129	Amos F. Moore, Polo	564	1,336	2.46	Hawks	Grade Shorthorn ..
130	T. L. Miller, Beecher.....	480	1,152	2.40	Putnam.....	Grade Hereford...
Average.		538	1,307	2.42		

First premium, \$25 00, to steer McMullin, bred and exhibited by J. D. Gillett, Elkhart.

Second premium, \$15 00 to steer Clare S. Reed, bred and exhibited by J. D. Gillett, Elkhart.

REPORT OF COMMITTEE.

This ring was composed of fourteen head of very remarkable yearling steers, showing an advanced state of maturity that is rarely seen in such young animals. As a lot they were more regular in the lines, fuller in most points than the two year old ring, especially in the filling of the back.

Their flesh under the touch indicated that mellow and marbled condition so desirable for good beef. It was laid on evenly over the carcass without the appearances of growing patchy as they advanced in age.

The first prize was awarded to a grade Shorthorn. For fullness of development, smoothness in form, straightness of lines and stylish finish in all points, was considered by the committee almost a prodigy in the nature of the species and therefore was considered without question entitled to the highest honor. The committee were further convinced that early maturity, coupled with fineness of form and excellence of quality, the most desirable object to be reached by the breeder of live stock.

The second prize was given to a high grade Shorthorn that was older and heavier, but your committee did not consider him equal in the scale of perfection to the first prize animal and therefore gave him the second prize as a mark of deserving merit.

LOT 6—SWEEPSTAKES RINGS.

OPEN TO ALL.

Steers four years old or over—19 entries:

No.	Exhibiter.	Age in days..	Weight, Nov. 10, 1898,.....	Average gain per day in lbs. since birth....	Name of Steer.	Breed.
1	W. W. Penfield, Penfield, O.	2,035	2,500	1.23	Dick	Shorthorn
27	T. L. Miller, Beecher,	1,677	2,043	1.23	John	Hereford
2	W. W. Penfield, Penfield, O.	2,115	2,438	1.13	Sam	Shorthorn
52	T. L. Miller, Beecher,	1,780	2,134	1.19	Ben	Grade Hereford..
43	John B. Sherman, Chicago..	2,399	2,840	1.18	Nels. Morris....	Grade Shorthorn..
53	Geo. Gray, Rushville, Ind..	2,374	2,838	1.19	Gov. Morton....	Grade Shorthorn..
44	John B. Sherman, Chicago..	1,689	2,309	1.38	John Sherman....	Grade Shorthorn..
54	Geo. Gray, Rushville, Ind..	1,994	2,552	1.23	Hooster Boy....	Grade Shorthorn..
45	J. D. Gillett, Elkhart.....	1,639	2,380	1.45	T. C. Eastman....	Grade Shorthorn..
46	J. D. Gillett, Elkhart.....	1,639	2,118	1.29	Short Leg.....	Grade Shorthorn..
47	J. D. Gillett, Elkhart.....	1,608	2,020	1.25	Ned Short.....	Grade Shorthorn..
48	J. D. Gillett, Elkhart.....	1,573	2,118	1.34	Vanderbilt	Grade Shorthorn..
49	J. D. Gillett, Elkhart.....	1,608	2,161	1.34	Robt. Burns....	Grade Shorthorn..
50	J. D. Gillett, Elkhart.....	1,530	2,137	1.39	Old Style.....	Grade Shorthorn..
3	J. H. Graves, Chilesburg, Ky.	1,943	2,445	1.25	VanMeter.....	Shorthorn
51	J. H. Graves, Chilesburg, Ky.	1,613	2,820	1.74	Turner	Grade Shorthorn..
4	Wing & Thompson, Bement.	1,593	2,166	1.36	Patron	Shorthorn
5	Wing & Thompson, Bement.	1,578	2,240	1.42	Wm. Allen.....	Shorthorn
26	Thomas Clark, Beecher.....	1,495	2,030	1.35	Royal	Hereford
Average		1,782	2,330	1.31		

Premium, \$50 00, to steer Vanderbilt, bred and exhibited by J. D. Gillett, Elkhart.

REPORT OF COMMITTEE.

This ring was comprised of 5 Shorthorns, 2 Herefords, 11 high grade Shorthorns and 1 grade Hereford.

A portion of the animals had passed the years of maturity, and had gone to some extent into decline in form and quality by growing bunchy and the flesh assuming a gristly nature.

The first prize was awarded to a high grade Shorthorn as being more perfect in general form throughout. The top and lower line being nearer parallel, and the quarters better developed; the back more evenly filled, and smoother in the shoulder points. The head was neat, and the lines of the entire carcass were the finest in the ring, and it was the opinion of the committee that he would yield the greatest per cent. of net weight in dressed meat, of the finest quality.

LOT 6—SWEETSTAKES RINGS.

OPEN TO ALL.

Steer three years old and under four years—19 entries.

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1870.....	Average gain per day in lbs. since birth....	Name of Steer.	Breed.
57	L. F. Ross, Avon	1,254	1,649	1.31	Jim Lockwood ...	Grade Devon ...
60	T. L. Miller, Beecher	1,304	1,846	1.44	Billy	Grade Hereford ..
61	T. W. Hunt, Ashton	1,294	1,986	1.53	Thad Stevens	Grade Shorthorn ..
63	T. L. Miller, Beecher	1,274	1,991	1.56	Barney	Grade Hereford ..
6	John B. Sherman, Chicago ..	1,311	2,019	1.53	Eddie Morris	Shorthorn
64	T. L. Miller, Beecher	1,274	1,842	1.44	Frank	Grade Hereford ..
65	J. D. Gillett, Elkhart	1,288	2,094	1.62	Red Chub	Grade Shorthorn ..
29	T. L. Miller, Beecher	1,359	1,968	1.44	Merryman	Hereford
73	J. D. Gillett, Elkhart	1,248	1,850	1.48	White Stocking ..	Grade Shorthorn ..
59	L. F. Ross, Avon	1,238	1,685	1.30	Number One	Grade Devon
95	J. D. Gillett, Elkhart	1,257	1,946	1.54	Roan Chub	Grade Shorthorn ..
71	J. D. Gillett, Elkhart	1,151	2,024	1.76	Cap. Nels. Morris ..	Grade Shorthorn ..
73	J. D. Gillett, Elkhart	1,151	1,986	1.72	Geo. Adams	Grade Shorthorn ..
73	J. D. Gillett, Elkhart	1,309	2,134	1.12	Heavy Set	Grade Shorthorn ..
76	J. D. Gillett, Elkhart	1,304	2,093	1.76	Barney McCue	Grade Shorthorn ..
7	J. H. Graves, Chilesburg, Ky.	1,335	2,060	1.54	Nichols	Shorthorn
55	J. H. Graves, Chilesburg, Ky.	1,394	1,961	1.40	Barrow	Grade Shorthorn ..
74	Wing & Thompson, Bement.	1,132	1,970	1.74	Bement	Grade Shorthorn ..
28	Thos. Clark, Beecher	1,420	1,979	1.39	Bright	Hereford
Average		1,281	1,965	1.51		

Premium, \$50 00, to steer Nichols; exhibited by J. H. Graves, Chilesburg, Ky.

REPORT OF COMMITTEE.

In this ring there were exhibited 19 animals that were possessed of superior merit. They were considered by the committee as being fully ripe and in the best condition to go to the block. The sweepstake prize was awarded to a thoroughbred Shorthorn. He presented such a combination of perfect development that it was difficult for the committee to find a fault. In their opinion there was a little too much prominence in the brisket and a trifle light in the heart girth on the lower part, but the crops were so thick that a straight line from crest to loin rested evenly on the body. The ribs were so close up to the rump line as to leave no perceptible opening. The loin was wide and level and the rump bones were placed at right angles with the quarter, which extended back to the tail in smooth form without the least hollow. The tail was set on square with the body and was heavy at the connection but rapidly tapered to a fine switch of nice length for beauty. The twist was filled on a level with the quarter down to the lower portion and the thighs were so well rounded as to give the bullock that square finish rarely ever seen.

The committee were further pleased to say that they never examined an animal which in their opinion would give a greater per cent. of good beef to the gross weight of the carcass, and would invite special attention to the measurements of this model animal.

LOT 6—SWEEPSTAKES RINGS.

OPEN TO ALL.

Steer two and under three years—21 entries.

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1893.....	Average gain per day in lbs since birth....	Name of Steer.	Breed.
8	J. N. Brown Sons Berlin...	845	1,636	1.93	John Clay, Jr....	Shorthorn.....
30	T. L. Miller, Beecher.....	939	1,474	1.57	Alex.....	Hereford.....
9	J. N. Brown Sons, Berlin...	814	1,449	1.78	Romeo.....	Shorthorn.....
102	A. F. Moore, Polo.....	919	1,633	1.77	Hube.....	Grade Shorthorn..
86	T. W. Hunt, Ashton.....	1,060	1,742	1.64	Charmer.....	Grade Shorthorn..
103	A. F. Moore, Polo.....	1,060	1,633	1.54	Leo.....	Grade Shorthorn..
89	J. D. Gillett, Elkhart..	993	1,913	1.92	Beaerieg.....	Grade Shorthorn..
104	A. F. Moore, Polo.....	920	1,633	1.77	Barld.....	Grade Shorthorn..
90	J. D. Gillett, Elkhart.....	965	1,696	1.75	Shorty.....	Grade Shorthorn..
105	A. F. Moore, Polo.....	918	1,633	1.77	Davis.....	Grade Shorthorn..
91	J. D. Gillett, Elkhart.....	977	2,081	2.12	Barnev.....	Grade Shorthorn..
106	A. F. Moore, Polo.....	934	1,633	1.74	Ogle Duke.....	Grade Shorthorn..
92	J. D. Gillett, Elkhart.....	991	1,942	1.95	Red Charley 2nd.	Grade Shorthorn..
93	J. D. Gillett, Elkhart.....	984	1,700	1.72	John Wood.....	Grade Shorthorn..
94	J. D. Gillett, Elkhart.....	944	1,692	1.79	S. E. Wood.....	Grade Shorthorn..
95	J. D. Gillett, Elkhart.....	939	1,869	1.99	Roan Chub.....	Grade Shorthorn..
98	J. D. Gillett, Elkhart.....	939	1,869	1.99	Fisher.....	Grade Shorthorn..
99	J. H. Graves, Chilesburg, Ky	1,024	1,652	1.61	Barrow 2nd.....	Grade Shorthorn..
100	J. H. Graves, Chilesburg, Ky	970	1,607	1.65	Lyle.....	Grade Shorthorn..
10	A. F. Moore, Polo.....	953	1,786	1.87	Rowland.....	Shorthorn.....
88	T. W. Hunt, Ashton.....	932	1,532	1.64	Victoria Duke....	Grade Shorthorn..
Average.....		953	1,705	1.78		

Premium, \$50 00, to steer Victoria Duke, bred and exhibited by T. W. Hunt, Ashton, Illinois.

REPORT OF COMMITTEE.

Of the twenty-one animals in this ring much might be said in their praise. As might be expected no feeder or breeder would exhibit at an exhibition of this kind any but animals of fine form and condition, and it is only left for the judgment of the butcher to decide between their merits.

The prize was awarded to a high grade shorthorn that was well advanced towards maturity and the flesh of which was so evenly distributed over the entire body as to leave but little room for the butcher to find fault. The head and neck was well moulded and small in proportion to the body. The loins were fine and the joints smooth and small. The fore legs were set well under the body and the hind ones straight in the hock and set square with the quarter. The fore ribs reached down so far as to give great fullness behind the fore arm and yet were so well sprung at the top as to give very thick crops. The rump was more pointed than it should be. The tail set on rather high and it also carried the thickness too far from the connection with the body. With these exceptions we consider him a model young steer.

LOT 6—SWEEPSTAKES RINGS.

OPEN TO ALL.

Steers 1 and under 2 years—14 entries:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Steer.	Breed.
12	J. N. Brown Sons, Berlin...	697	1,338	1.93	Boynton	Shorthorn
31	T. L. Miller, Beecher	712	1,397	1.96	General	Hereford
113	J. N. Brown Sons, Berlin...	667	1,193	1.79	Conger	Shorthorn
32	T. L. Miller, Beecher	500	1,114	2.23	Will	Hereford
14	J. N. Brown Sons, Berlin...	542	1,249	2.30	Belmont	Shorthorn
130	T. L. Miller, Beecher	480	1,152	2.40	Putnam	Grade Hereford...
15	J. N. Brown Sons, Berlin...	585	1,240	2.11	Morris	Shorthorn
117	J. D. Gillett, Elkhart	544	1,300	2.39	Clare S. Reed	Grade Shorthorn..
118	J. D. Gillett, Elkhart	544	1,401	2.57	Albert Pell	Grade Shorthorn..
119	J. D. Gillett, Elkhart	513	1,300	2.53	Blackstone	Grade Shorthorn..
120	J. D. Gillett, Elkhart	605	1,196	1.97	McMullin	Grade Shorthorn..
121	J. D. Gillett, Elkhart	513	1,300	2.53	Van Horn	Grade Shorthorn..
122	J. D. Gillett, Elkhart	544	1,300	2.39	Charlton	Grade Shorthorn..
129	Amos F. Moore, Polo	564	1,386	2.46	Hawks	Grade Shorthorn..
Average		572	1,276	2.25		

Premium, \$50 00, J. D. Gillett, Elkhart; steer Clare S. Reed.

REPORT OF COMMITTEE.

As a lot for future promise this ring had every thing in their favor. They evidently show that there is improvement in the breeding of grades for symmetrical form and quality of carcass. The herds have a more uniform type of their respective breeds, demonstrating the fact that each cross of the pure bred animal improves the grade.

The Sweepstake prize was awarded to a high grade Shorthorn, which we considered had the most perfect development, for the age, showing a carcass with but very little fault in our judgment. His body was low to the ground and the limbs were fine; so was also his head and neck. He evidently had more fullness in the hind quarter than any other animal in the ring, but some of the others approached very near to him in many parts. So close were the points of discrimination in this ring that the committee freely admit that the best judgment might differ in making the awards. After a very careful examination we made the award according to our best judgment.

LOT 6—SWEEPSTAKES RINGS.

OPEN TO ALL.

Cow three years old or over—10 entries:

No.	Exhibitor.	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Cow.	Breed.
38	L. F. Ross, Avon	3,490	1,284	0.38	Marilla.....	Devon
18	Dexter Curtis, Madison, Wis.	2,560	2,042	0.70	Adelia 2d	Shorthorn
17	Dexter Curtis, Madison, Wis.	3,667	1,936	0.53	Barbana	Shorthorn
18	R. K. & A. S. Brownlie, Long Grove, Iowa.....	2,035	1,769	0.88	Red Bettie.....	Shorthorn
19	Samuel E. Prather, Sherman	2,731	1,833	0.67	2nd Rose of York.	Shorthorn
20	Samuel E. Prather, Sherman	1,186	1,525	1.25	Miss Morton, Riv.	Shorthorn
21	W. F. Gordon, Liberty, Mo..	3,064	1,901	0.69	Miss Belle of Liberty	Shorthorn
22	W. F. Gordon, Liberty, Mo..	2,241	1,669	0.74	Missouri Belle, 2d.	Shorthorn
23	Wing & Thompson, Bement.	1,423	1,616	1.13	Diana	Shorthorn
34	T. L. Miller, Beecher.....	2,018	1,730	0.85	Jennie	Hereford
Average		2,442	1,728	0.77		

Premium, \$50 00 to cow, Red Bettie, exhibited by R. K. & A. S. Brownlie, Long Grove, Iowa.

REPORT OF COMMITTEE.

In this lot there were ten exhibits varying in age from three to eight years. The older cows had to some extent declined in value as beef beasts, yet we must say that they retained their good qualities in form and handling to an eminent degree. After a very close examination between a thoroughbred Shorthorn and a Hereford, each of which was five years of age, the majority decided in favor of the Shorthorn as being the best beef animal when the whole carcass was taken into consideration. Having a finer head and neck, smaller bones, and less offal. There was a little unevenness in the laying on of the flesh but none of that objectional nature of a bunched animal was detected by the touch. Handling indicated a superior quality of flesh which was mellow, yet not so soft as to be considered flabby or that the carcass was burdened by extra bunches of fat. On the contrary we were convinced that the beef was of that juicy nature so much desired by the consumer.

The Hereford cow was considered a little deficient in the depth and length of hind quarter but in the crops and loin was fully the equal of the prize animal and the general form presented full as much beauty of symmetry to the eye.

The head and neck was coarser giving more offal, which, coupled with the defect in the quarter gave the other animal the preference.

LOT 7—GRAND SWEEPSTAKES RING.

OPEN TO ALL.

Best steer or cow in the show.

Premium \$100; awarded to steer Nichols, exhibited by J. H. Graves, Chilesburg, Ky.

There were forty-nine animals entered for this grand prize, twenty-two of which were brought into the ring, and nearly all the prize animals of the show were included. It is doubtful if ever before there was as many good specimens assembled together. They comprized the gems of the entire department. For making this award, five expert committeemen were used, who, after a long and careful examination, unanimously selected the thoroughbred Shorthorn steer Nichols, owned by J. H. Graves, of Chilesburg, Ky. Their opinions fully endorsed the reports of the other committees that had awarded prizes to the same animal, as being the most perfect bovine animal they had ever examined.

There are many cases where expert judges will differ on the merits of two animals; but in this case such a symmetry of form was presented, that there was not a dissenting voice

in giving the prize. Even rival exhibitors, who are apt to be biased by self-interest or blinded by home productions, agreed in the justice of the award. The hundreds of visitors present gave evidence of their approval by cheers, and exclamations that it was the best bullock that was ever in Chicago.

LOT 8—CAR LOADS.

Best lot cattle four years old or over, not less than six head to weigh not less than 2,000 pounds each—2 entries.

No.	Exhibitor.	Age in days...	Weight Nov. 10, 1879.....	Average gain per day in lbs since birth....	Name of Steer.	Breed.
43	John B. Sherman, Chicago.	2,399	2,840	1.18	Nels. Morris.....	Grade Shorthorn..
40		2,399	2,500	1.04	Col. Judy	Grade Shorthorn..
44		1,669	2,309	1.38	John Sherman....	Grade Shorthorn..
41		2,399	2,478	1.03	General Logan. .	Grade Shorthorn..
42		2,399	2,179	0.90	Doc Woods	Grade Shorthorn..
55		1,669	2,090	1.25	Bob Ingersoll....	Grade Shorthorn..
	Average	2,155	2,399	1.13		
45	J. D. Gillett, Elkhart.....	1,639	2,380	1.45	T. C. Eastman...	Grade Shorthorn..
46		1,639	2,116	1.29	Shortleg	Grade Shorthorn..
47		1,608	2,020	1.25	Ned Short	Grade Shorthorn..
48		1,573	2,118	1.34	Vanderbilt	Grade Shorthorn..
49		1,608	2,116	1.34	Robert Burns ...	Grade Shorthorn..
50		1,530	2,137	1.39	Old Style	Grade Shorthorn..
	Average	1,599	2,147	1.34		

First premium, J. D. Gillett, Elkhart, \$200 00.

Second premium, J. B. Sherman, Chicago, \$100 00.

REPORT OF COMMITTEE.

There were twelve animals in this ring any one of which would be considered a prize animal by the butcher for quality of beef and cutting to profit.

The first prize was awarded to a car load of high grade Shorthorns on account of being more even as a lot, of better symmetry, less patchy and less offal in dressing; also the flesh was more evenly distributed and less surplus of fatty matter on their carcasses. The backs and loins were wide and well covered with flesh that handled very well.

The second prize was awarded to a load composed of grade Shorthorns which were nearly equal in quality to the first prize lot. They were in very high flesh but were considered rather patchy for the best quality of beef.

LOT 8—CAR LOADS.

Best lot Cattle, three and under four years old, not less than eight head to weigh not less than 1,700 pounds each—3 entries:

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1879,	Average gain per day in lbs. since birth..	Name of Steer.	Breed.
CAR No. 1.						
65	J. D. Gillett, Elkhart.....	1,288	2,094	1.62	Red Chub.....	Grade Shorthorn..
67		1,248	1,850	1.48	White Stocking..	Grade Shorthorn..
69		1,237	1,848	1.54	Chub.....	Grade Shorthorn..
71		1,151	2,024	1.75	Capt. Neils. Morris	Grade Shorthorn..
73		1,151	1,935	1.72	Geo. Adams.....	Grade Shorthorn..
75		1,274	1,799	1.41	Drake.....	Grade Shorthorn..
76		1,309	2,134	1.13	Heavy Set.....	Grade Shorthorn..
78		1,304	2,303	1.75	Barney McCue...	Grade Shorthorn..
	Average	1,247	2,017	1.55		
CAR No. 2.						
77	J. D. Gillett, Elkhart.....	1,257	1,978	1.57	Snow Flake.....	Grade Shorthorn..
78		1,248	2,125	1.70	Red Cbarley.....	Grade Shorthorn..
79		1,314	2,031	1.54	Red Rover.....	Grade Shorthorn..
80		1,257	1,838	1.45	Short.....	Grade Shorthorn..
81		1,279	2,123	1.66	Lake.....	Grade Shorthorn..
82		1,269	2,307	1.81	Downhorn.....	Grade Shorthorn..
83		1,288	1,972	1.53	White Star.....	Grade Shorthorn..
84		1,274	1,868	1.46	Bradshaw.....	Gaade Shorthorn..
	Average....	1,261	2,030	1.59		
CAR No. 3						
60	T. L. Miller, Beecher....	1,304	1,886	1.44	Billy.....	Grade Hereford...
63		1,274	1,991	1.56	Barney.....	Grade Hereford...
64		1,274	1,842	1.44	Frank.....	Grade Hereford...
70		1,274	1,823	1.44	Peter.....	Grade Hereford...
66		1,243	1,829	1.47	Sam.....	Grade Hereford...
68		1,274	1,769	1.38	Captain.....	Grade Hereford...
72		1,243	1,840	1.48	Colonel.....	Grade Hereford...
29		1,359	1,968	1.44	Merryman.....	Hereford.....
	Average	1,280	1,863	1.45		

First premium, \$200 00, car lot No. 1, bred and exhibited by J. D. Gillett, Elkhart.

Second premium, \$100 00, car lot No. 2, bred and exhibited by J. D. Gillett, Elkhart.

REPORT OF COMMITTEE.

In this ring there was three exhibits which were considered as a whole a better lot of cattle than the four year old car loads. The steers were all well matured animals and fully ripe for the block. They were also more even and uniform in the style and finish of that class of animals which butchers term "blocky," being low on the limbs, fine in bones and bodies approaching near the form of an oblong square.

The second premium was awarded to a lot but little below the quality of the first prize lot in the judgement of the committee

LOT 8—CAR LOADS.

Best lot Cattle, two and under three years, not less than ten head, to weigh not less than 1,500 pounds each—3 entries:

No.	Exhibiter,	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Steer.	Breed.
CAR LOT NO. 1.						
89	J. D. Gillett, Elkhart.. ..	993	1,918	1.92	Bear Leg.....	Grade Shorthorn..
90		965	1,896	1.75	Shorty.....	Grade Shorthorn..
91		977	2,081	2.12	Barney.....	Grade Shorthorn..
92		974	1,933	1.95	Red Charley, 2d..	Grade Shorthorn..
93		984	1,700	1.72	John Wood.....	Grade Shorthorn..
94		944	1,692	1.79	S. E. Wood.....	Grade Shorthorn..
95		939	1,889	1.99	Roan Chub.....	Grade Shorthorn..
96		939	1,646	1.75	Lake Fork.....	Grade Shorthorn..
97		978	1,787	1.72	Wildy.....	Grade Shorthorn..
98		939	1,869	1.99	Fisher.....	Grade Shorthorn..
Average		965	1,818	1.87		

CAR LOT NO. 2.						
107	J. D. Gillett, Elkhart.....	909	*1,695	1.86	Bowen	Grade Shorthorn..
108		998	1,695	1.69	Curphy.....	Grade Shorthorn..
109		970	1,695	1.74	Powers.....	Grade Shorthorn..
110		909	1,695	1.64	Shea.....	Grade Shorthorn..
111		892	1,695	1.90	Schuler.....	Grade Shorthorn..
112		909	1,695	1.64	Rice.....	Grade Shorthorn..
113		878	1,695	1.53	Dean.....	Grade Shorthorn..
114		923	1,695	1.83	Taylor.....	Grade Shorthorn..
115		909	1,695	1.64	Lewis.....	Grade Shorthorn..
116		892	1,695	1.90	Buckles.....	Grade Shorthorn..
Average.....		918	1,605	1.77		

No.	Exhibiter.	Age in days....	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Steer.	Breed.
CAR NO. 3.						
10	Amos F. Moore, Polo	953	1,786	1.87	Rowland.....	Shorthorn
134		949	* 1,633	1.72	Bruin.....	Grade Shorthorn..
131		946	1,633	1.72	Happy Jack.....	Grade Shorthorn..
104		920	1,633	1.77	Earld.....	Grade Shorthorn..
132		914	1,633	1.78	Jim.....	Grade Shorthorn..
105		918	1,633	1.77	Davis.....	Grade Shorthorn..
103		1,060	1,633	1.54	Leo.....	Grade Shorthorn..
101		839	1,633	1.73	Nelson.....	Grade Shorthorn..
102		919	1,633	1.77	Rube.....	Grade Shorthorn..
106		934	1,633	1.74	Ogle Duke.....	Grade Shorthorn..
Average ..		945	1,648	1.74		

* Car load was weighed together and average given for each steer.

First premium, J. D. Gillett, Elkhart, \$200 00.

Second premium, A. F. Moore, Polo, \$100 00.

In the two year old car lots there were three exhibits that were pronounced in the judgment of the committee the most perfect lot of cattle of the age they had ever examined. There was not an animal in the ring that could be objected to as a whole, the defects being so few and so light that they were not discernable to the eye of any but the careful observer.

The committee awarded the first prize to the lot that presented the fewest defects in the different animals, and the second prize to the lot that marked but a few points more of inferiority.

LOT 8—CAR LOADS.

Best Lot Cattle 1 and under 2 years, not less than 12 head, to weigh not less 1,300 pounds each

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1878.....	Average gain per day in lbs since birth....	Name of Steer.	Breed.
117	John D. Gillett, Elkhart ...	544	1,300	2.39	Clare S. Reed ...	Grade Shorthorn..
118		544	1,401	2.57	Albert Pell	Grade Shorthorn..
119		513	1,300	2.53	Blackstone.....	Grade Shorthorn..
120		605	1,196	1.97	McMullen	Grade Shorthorn..
121		513	1,300	2.53	Van Horn	Grade Shorthorn..
122		544	1,300	2.39	Charlton	Grade Shorthorn..
123		513	1,373	2.67	Jir Smith	Grade Shorthorn..
124		544	1,236	2.27	Whipple.....	Grade Shorthorn..
125		544	1,300	2.39	Hurlbert.....	Grade Shorthorn..
126		544	1,300	2.39	Vaughn	Grade Shorthorn..
127		544	1,351	2.48	Richards	Grade Shorthorn..
128		544	1,400	2.57	Larrabee.....	Grade Shorthorn..
Average		541	1,313	2.42		

First premium J. D. Gillett, Elkhart, \$200 00.

In the yearling ring there was but one entry but young as they were, they had much of the even form and fine development of the two year old ring. They were in the judgment of the committee entitled to the highest award of merit that they had at their disposal, therefore they unanimously gave them the first prize.

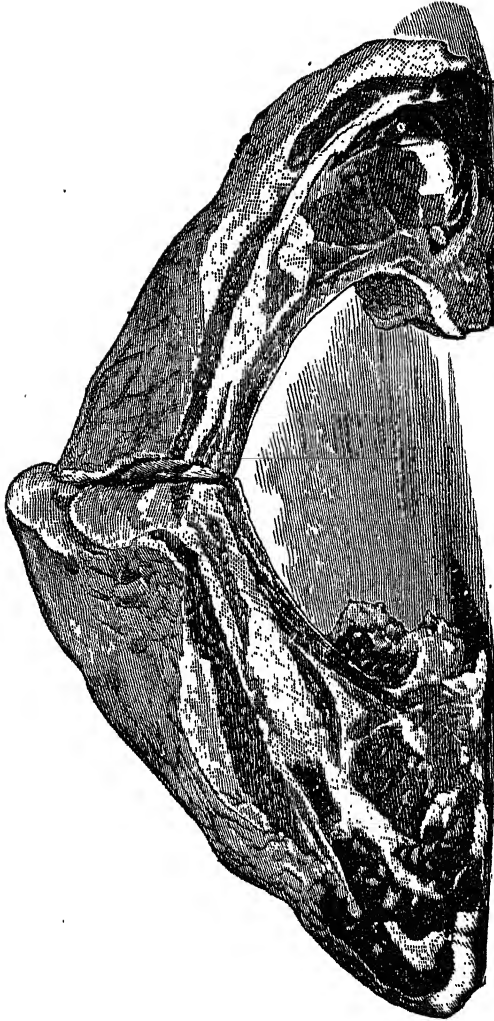
LOT 9—DRESSED BULLOCKS.

Not less than two entries will be considered.

The bullocks to be killed, dressed and weighed under direction of the Awarding Committee. The dressed carcasses to remain the property of the exhibitor. Bullock dressing the largest percentage of meat in proportion to live weight, \$50 00.

No.	Exhibiter.	Age in days...	Weight, Nov. 14, 1879.....	Average gain per day in lbs. since birth....	Name of Steer.	Breed.
1	T. L. Miller, Beecher,	1,274	1,963	1.56	Barney	Grade Hereford...
2	L. F. Ross, Avon	1,254	1,614	1.31	Jim Lockwood.....	Grade Devon
3	J. D. Gillett, Elkhart.	1,274	1,795	1.41	Drake.....	Grade Shorthorn..
Average		1,267	1,790	1.42		

Premium, \$50 00; to grade Hereford steer Barney, exhibited by T. L. Miller, Beecher.



GRADE HEREFORD.

Rib roast of grade Hereford and grade Shorthorn steers, slaughtered at 1879 Fat Stock Show.

GRADE SHORTHORN.

REPORT OF COMMITTEE.

Name of Steer.	Breed.	Live weight Nov. 14..	Dressed weight.....	Per centage net to gross weight.	Left fore quarter.....	Right fore quarter....	Left hind quarter... ..	Right hind quarter....	Head.....	Hide.....	Paunch, guts, liver, heart, feet, ligens...	Stomach, gut fat, straight guts, caul, etc	Contents of stomach, blood shrinkage....
Barney.....	Grade Hereford	1,963	1,317	87.09	371	354	305	287	55	106	113	173	194
Jim Lockwood	Grade Devon....	1,614	1,055	65.38	277	275	256	247	49	95	95	145	175
Drake.....	Gr. Shorthorn..	1,795	1,179	65.73	308	308	285	283	47	90	97	155	237
Average		1,790	1,183	66.06	318	310	282	272	50	97	101	159	198

LOT 10—HEAVIEST FAT STEER

No.	Exhibiter.	Age in days..	Weight Nov. 14, 1893.....	Average gain per day in lbs. since birth....	Name of Steer.	Breed.
43	John B. Sherman, Chicago.	2,403	2,840	1.18	Nels Morris	Grade Shorthorn.
51	J. H. Graves, Chilesburg, Ky.	1,617	2,755	1.7	Turner	Grade Shorthorn.
3	J. H. Graves, Chilesburg, Ky.	1,647	2,381	1.21	VanMeter	Shorthorn
52	T. L. Miller, Beecher . . .	1,784	2,081	1.13	Ben	Grade Hereford.
53	Geo. Gray, Rushville, Ind..	2,373	2,802	1.17	Gov. Morton.....	Grade Shorthorn.
54	Geo. Gray, Rushville, Ind..	1,998	2,559	1.23	Hoosier Boy.....	Grade Shorthorn.
56	J. Lequatte, Illinois City..	2,416	2,678	1.11	Burnside	Grade Shorthorn.
Average		2,079	2,575	1.25		

*Twelve hours off feed and water.

First premium, \$75 00, steer Nels. Morris; John B. Sherman, Chicago.

Second premium, \$50 00, Gov. Morton; Geo. Gray, Rushville, Ind.

Third premium, \$25 00, steer Turner; J. H. Graves, Chilesburg, Ky.

EARLY MATURITY.

Steer four years old or over.

Premium, silver medal, to grade Shorthorn steer Turner, exhibited by J. H. Graves Chilesburg, Ky., Age, 1,613 days; weight, 2,820 lbs.; average gain per day since birth, 1.74 lbs.

Steer three and under four years.

Premium, silver medal, to grade Shorthorn steer Downhorn, exhibited by J. D. Gillett, Elkhart. Age, 1,269 days; weight, 2,307 lbs.; average gain per day since birth, 1.81 lbs.

Steer two and under three years.

Premium, silver medal, to grade Shorthorn steer Barney, exhibited by J. D. Gillett, Elkhart. Age 977 days; weight, 2,081 lbs.; average gain per day since birth, 2.12 lbs.

Steer one and under two years.

Premium, silver medal, to grade Shorthorn steer Jim Smith, exhibited by J. D. Gillett, Elkhart. Age, 513 days; weight, 1,373 lbs.; average gain per day since birth, 2.87 lbs.

REPORT OF AWARDING COMMITTEES.

CLASS C—SHEEP.

LOT 12—LONG WOOLS.

Wether, 2 years old or over—7 entries.

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth...	Name of Animal.	Breed.
135	J. A. Brown & Son, Decatur	970	247	0.25	Quick.....	Cotswold.....
136	J. A. Brown & Son, Decatur	970	230	0.27	Slow.....	Cotswold.....
137	Geo. Pickrell, Wheatfield..	1,288	204	0.16	Dave Hall ..	Cotswold.....
138	T. L. Miller, Beecher.....	939	232	0.23	George.....	Cotswold.....
139	Geo. Hood, Guelph, Ca....	969	300	0.31	Gueph.....	Leicester
140	Geo. Hood, Guelph, Ca....	970	272	0.23	Ontario....	Leicester
141	Geo. Hood, Guelph, Ca....	970	223	0.23	Tom	Cotswold.....
Average		1,011	253	0.25		

First premium, \$15 00, Guelph, exhibited by Geo. Hood, Guelph, Canada.

Second premium, \$10 00, George, exhibited by T. L. Miller, Beecher.

REPORT OF COMMITTEE.

This ring was composed of superior animals—large, smooth, and fat.

The first prize animal was symmetrical, with neat head, short neck, well filled back and loin and flesh evenly distributed—a good handler and a fine model of a well matured fat sheep.

The second prize sheep excelled in many essential points, was lighter in the quarters in proportion to weight than the first premium wether.

Wether one and under two years—5 entries.

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1879	Average gain per day in lbs. since birth...	Name of Animal.	Breed.
142	T. L. Miller, Beecher.....	574	177	0.31	Dick.....	Cotswold.....
143	T. L. Miller, Beecher.....	574	158	0.27	Bob	Cotswold.....
144	J. A. Brown & Son, Decatur	574	213	0.33	Favorite.....	Cotswold.....
145	Geo. Hood, Guelph, Can....	605	221	0.36	Snell.....	Cotswold.....
146	Geo. Hood, Guelph, Can....	605	198	0.33	Model.....	Cotswold.....
Average		586	194	0.33		

First premium, \$15 00, Snell, exhibited by Geo. Hood, Guelph, Canada.

Second premium, \$10 00, Favorite, exhibited by J. A. Brown & Son, Decatur.

REPORT OF COMMITTEE.

All the sheep in this ring were creditable specimens, and in prime condition for the block. The first and second prize winners were evenly mated, compact and blocky in form and well matured.

The first prize animal was finer in bone than his competitors, with neat head, broad back well covered with lean meat of good thickness. The unanimous expression of the committee was highly commendatory of the fine finish and superior quality of this well fattened sheep.

The second premium sheep was but little inferior to the first prize animal in symmetry and handling qualities.

Wether under one year old—1 entry:

No.	Exhibiter.	Age in days ...	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
147	George Hood, Guelph, Ca..	240	150	0.62	John	Cotswold... ..
	Average	240	150	0.62		

Second premium, \$10 00, John, exhibited by Geo. Hood, Guelph, Canada.

REPORT OF COMMITTEE

There was but one entry in this ring—a medium fat lamb, which was somewhat below the high standard of excellence that should characterize a first prize animal, and is therefore recommended for second premium.

Ewe two years old or over—16 entries:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
148	Wm. Moffatt & Bro. Paw Paw	1,804	323	0.25	Black Eye.....	Cotswold.....
149	Wm. Moffatt & Bro. Paw Paw	1,808	264	0.20	Miss Simon.....	Cotswold.....
150	Wm. Moffatt & Bro. Paw Paw	1,808	264	0.20	Jose.....	Cotswold.....
151	Wm. Moffatt & Bro. Paw Paw	1,804	316	0.24	Sallie Mitchell....	Cotswold.....
152	T. L. Miller, Beecher.....	909	250	0.27	Elsie.....	Cotswold.....
153	T. L. Miller, Beecher.....	909	275	0.30	May Day.....	Cotswold.....
154	Geo. Hood, Guelph, Ca.....	1,835	342	0.25	Lady Snell.....	Cotswold.....
155	Geo. Hood, Guelph, Ca.....	1,835	233	0.17	Lady Stone.....	Cotswold.....
156	Geo. Hood, Guelph, Ca.....	1,835	287	0.21	Lady Waters.....	Cotswold.....
157	F. Willson, Jackson, Mich	1,335	285	0.21	Teastle.....	Cotswold.....
158	Abner Strawn, Ottawa.....	1,700	230	0.13	Strawn, 84.....	Cotswold.....
159	Abner Strawn, Ottawa.....	1,700	255	0.15	Strawn, 346.....	Cotswold.....
160	Abner Strawn, Ottawa.....	1,700	243	0.14	Strawn, 318.....	Cotswold.....
161	Abner Strawn, Ottawa.....	1,700	271	0.16	Strawn, 320.....	Cotswold.....
162	Geo. Hood, Guelph, Ca.....	1,835	244	0.18	Marion.....	Cotswold.....
163	Geo. Hood, Guelph, Ca.....	1,835	239	0.18	Belle.....	Cotswold.....
	Average... ..	1,365	270	0.19		

First premium \$15 00, Lady Snell, exhibited by Geo. Hood, Guelph, Canada.

Second premium \$10 00, Black Eye, exhibited by Wm. Moffatt & Bro., Paw Paw.

REPORT OF COMMITTEE.

In quality as well as number this ring was worthy of special mention and a better lot was probably never shown in this country.

The ewe awarded the first premium was exceptionally fine in all the points most prized by the butcher—in breeding a pure Cotswold weighing 342 pounds. Her general style and appearance indicated a vigorous, hardy constitution and excellent feeding qualities—in handling she was all that could be desired in a prime mutton sheep.

Quarters square, deep and well proportioned—broad back well packed with solid mellow flesh—straight top and bottom lines.

She was unanimously voted "the butchers' model" for a mutton carcass.

The second prize ewe was also a very superior, well matured sheep and ready for the block.

Ewe, one and under 2 years—13 entries:

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
164	T. L. Miller, Beecher.....	574	173	0.30	Alice.....	Cotswold.....
165	T. L. Miller, Beecher.....	574	183	0.32	Kate.....	Cotswold.....
166	Geo. Hood, Guelph, Ca.....	605	197	0.32	Lady Kirby.....	Cotswold.....
167	Geo. Hood, Guelph, Ca.....	605	197	0.32	Model Lady.....	Cotswold.....
168	Abner Strawn, Ottawa.....	605	249	0.41	Strawn 250.....	Cotswold.....
169	Abner Strawn, Ottawa.....	605	240	0.39	Strawn 249.....	Cotswold.....
170	Abner Strawn, Ottawa.....	605	263	0.43	Strawn 248.....	Cotswold.....
171	Abner Strawn, Ottawa.....	605	232	0.38	Strawn 247.....	Cotswold.....
172	Abner Strawn, Ottawa.....	605	270	0.44	Strawn 246.....	Cotswold.....
173	Abner Strawn, Ottawa.....	605	240	0.39	Strawn 245.....	Cotswold.....
174	Abner Strawn, Ottawa.....	605	240	0.39	Strawn 244.....	Cotswold.....
175	Abner Strawn, Ottawa.....	605	243	0.40	Strawn 243.....	Cotswold.....
176	Abner Strawn, Ottawa.....	605	237	0.39	Strawn 242.....	Cotswold.....
Average.....		600	228	0.38		

First premium, \$15 00, Strawn 246, exhibited by Abner Strawn, Ottawa.

Second premium, \$10 00, Strawn 248, exhibited by Abner Strawn, Ottawa.

REPORT OF COMMITTEE.

There was scarcely an inferior animal in this ring, and the uniformity in size, style and condition could hardly be expected in sheep from the same number of flocks. All the sheep were pure bred Cotswolds, and reflected credit alike upon the breeder and feeder.

The first premium was unanimously awarded on first ballot to an animal of fine form and finish showing the greatest average gain per day of any in the ring.

The second premium ewe was in many respects the equal of the animal receiving the first honor.

The premium ewes were very evenly mated, with broad, deep backs, straight top and bottom lines, well filled quarters and handling qualities, indicating a superior carcass of ripe and excellent mutton. In the last and very essential qualifications, the first prize ewe was better than any in the ring.

Ewe under one year—5 entries.

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
177	Geo. Carey, Rochelle.....	204	113	0.55	Gem.....	Leicester.....
178	T. L. Miller, Beecher.....	209	128	0.61	Gipsy.....	Cotswold.....
179	T. L. Miller, Beecher.....	209	130	0.62	Topsy.....	Cotswold.....
180	Geo. Hood, Guelph, Can....	240	133	0.55	Rose Kirby.....	Cotswold.....
181	F. Willson, Jackson, Mich..	240	139	0.58	Willson.....	Cotswold.....
Average.....		220	128	0.58		

First premium, \$15 00, Willson, exhibited by Frank Willson, Jackson, Mich.

Second premium, \$10 00; Rose Kirby, exhibited by Geo. Hood, Guelph, Canada.

REPORT OF COMMITTEE.

The animals composing this ring could only be rated as promising, thrifty lambs, all showing good growth, fine breeding, but none of them were in prime condition for the block.

The heaviest and fattest ewe in the ring was awarded the first premium. This ewe was on the low, blocky order and well proportioned throughout.

The second premium ewe was nearly as good as the first but lacked finish, to be acquired only by age and continued feeding.

LOT 13—MIDDLE WOOLS.

Wether 2 years old or over—14 entries:

No.	Exhibiter.	Age in days..	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
182	John Gosling, Rockford.....	919	155	0.17	Wentworth.	Southdown
183	Geo. Carey, Rochelle.....	1,304	204	0.15	Wesson	Southdown
184	Geo. Carey, Rochelle.....	939	185	0.19	Ed. Holton.....	Southdown
185	Geo. Carey, Rochelle.....	939	184	0.19	Edson	Southdown
186	Geo. Pickrell, Wheatfield...	1,653	165	0.10	Uncle Jake.....	Southdown.....
187	Geo. Pickrell, Wheatfield...	1,653	174	0.10	Nick	Southdown
188	Geo. Pickrell, Wheatfield...	1,238	190	0.14	Harvey.....	Southdown.....
189	Geo. Pickrell, Wheatfield...	1,238	182	0.14	Todd	Southdown
190	Geo. Pickrell, Wheatfield...	1,238	215	0.16	Grout	Southdown.....
191	Geo. Hood, Guelph, Canada.	970	150	0.15	Anderson.....	Southdown.....
192	Geo. Hood, Guelph, Canada.	970	150	0.15	Model Boy.....	Southdown.....
193	Frank Willson, Jackson, Mich.	1,335	225	0.17	Harry	Oxford
194	Frank Willson, Jackson, Mich.	1,335	225	0.17	Dick	Shropshire.....
195	Taylor Bros., Waynesville..	1,309	190	0.14	Prince	Shropshire.....
Average		1,227	185	0.15		

First premium, \$15 00, Grout, exhibited by Geo. Pickrell, Wheatfield.

Second premium, \$10 00, Wesson, exhibited by Geo. Carey, Rochelle.

REPORT OF COMMITTEE.

This ring was made up of excellent specimens of Southdown sheep, with scarcely an animal that could be criticised. All were large, smooth and very creditable representatives of this renowned mutton breed.

The animal in this ring accorded the first honor very nearly approached a standard of excellence, leaving little to be desired in a profitable sheep for the butcher.

The first premium animal was the heaviest sheep in the ring and had the larger proportion of lean flesh evenly distributed in the best portions of the carcass.

The second premium sheep was a very fine, blocky animal, not quite as deeply fleshed as the first premium sheep.

Wether 1 and under 2 years—8 entries.

No.	Exhibiter.	Age in days..	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
196	Geo. Carey, Rochelle.....	544	123	0.23	Sam	Southdown
197	Geo. Carey, Rochelle.....	544	111	0.20	Jim	Southdown.....
198	Geo. Pickrell, Wheatfield...	558	133	0.33	Alvey	Southdown.....
199	Geo. Pickrell, Wheatfield...	558	179	0.32	J. M. Bird.....	Southdown.....
200	Geo. Pickrell, Wheatfield...	558	163	0.29	Jacob Bird.....	Southdown.....
201	Geo. Pickrell, Wheatfield...	558	161	0.29	Scott	Southdown.....
202	Geo. Pickrell, Wheatfield...	558	180	0.32	Arthur	Southdown.....
203	Geo. Hood, Guelph, Can....	605	180	0.29	James.....	Southdown.....
Average		560	160	0.28		

First premium \$15 00, Alvey, exhibited by Geo. Pickrell, Wheatfield.

Second premium, \$10 00, J. M. Bird, exhibited by Geo. Pickrell, Wheatfield.

REPORT OF COMMITTEE.

All the animals in this ring were well fleshed with solid meat of fine quality and would rate in any market as first class butchers' stock.

The first premium wether was remarkably good for his age, square and symmetrical with well filled and nicely proportioned quarters, broad, deep back of good length, and approached a very high standard of perfection.

The second premium wether, except a slight want of style and fine rounded barrel, was fully the equal of the first prize winner.]

Wether under one year—2 entries:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1893.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
204	Geo. Pickrell, Wheatfield...	193	96	0.49	Bud Lucky....	Southdown
205	Geo. Pickrell, Wheatfield...	193	92	0.47	T. J.	Southdown
Average		193	94	0.48		

First premium, \$15 00, Bud Lucky; exhibited by Geo. Pickrell, Wheatfield.

Second premium, \$10 00, T. J.; exhibited by Geo. Pickrell, Wheatfield.

REPORT OF COMMITTEE.

The two lambs entered in this ring were creditable specimens, and were well matched and exceptionally good, considering the age.

The first prize lamb had better top and bottom lines, and ribs were well sprung--somewhat better proportioned and larger of the two for his age.

The winner of the second prize was not as good handler as his rival, and while near the same weight, did not give evidence of having as good quality of meat.

Two two years old or over—10 entries.

No.	Exhibiter.	Age in days ..	Weight Nov. 10, 1893.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
206	J. A. Brown & Son, Decatur	970	247	0.25	Queen	Shropshire
207	Luke Teeple, Belvidere	1,318	170	0.13	Beauty	Southdown
208	Geo. Carey, Rochelle	939	186	0.19	Lucy	Southdown
209	Jas. Cotton, Rockford	1,333	195	0.14	Bostock	Shropshire
210	Geo. Pickrell, Wheatfield ..	923	166	0.17	Lady Southdown.	Southdown
211	Geo. Pickrell, Wheatfield ..	923	172	0.18	Belle	Southdown
212	Geo. Pickrell, Wheatfield ..	1,288	174	0.13	Queen	Southdown
213	Geo. Pickrell, Wheatfield ..	2,018	173	0.08	Bess	Southdown
214	Geo. Hood, Guelph, Can.	970	152	0.15	Armstrong	Southdown
215	Taylor Bros., Waynesville ..	2,045	188	0.09	Queen	Shropshire
Average		1,273	184	0.14		

First premium, \$15 00, Queen, exhibited by J. A. Brown & Son, Decatur.

Second premium, \$10 00, Lucy, exhibited by Geo. Carey, Rochelle.

REPORT OF COMMITTEE.

The high average in weight and quality of the ewes in this ring is seldom excelled. All the animals possessed great merit. The first prize ewe was remarkably large and well developed for age and gave evidence of good breeding and superior skill in feeding.

The distribution of meat in the better portions of the carcass was all that could be desired. The meat was solid and mellow and the handling indicated fine quality.

The second premium ewe was younger and did not show as great development for age. In form and handling qualities there was but little difference between the two premium animals.

Ewe, 1 and under 2 years—3 entries.

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
216	James Cotton, Rockford....	606	185	0.30	Byrd	Shropshire.....
217	Geo. Hood, Guelph, Ca.....	605	125	0.20	Lady Armstrong.	Southdown
218	Geo. Hood, Guelph, Ca....	605	132	0.21	Rose Anderson..	Southdown
	Average	605	147	0.24		

First premium, \$15 00, Byrd, exhibited by James Cotton, Rockford.

Second premium, \$10 00, Rose Anderson, exhibited by Geo. Hood, Guelph, Ca.

REPORT OF COMMITTEE.

The first prize ewe, considering age, was excellent in all essential points, and well developed. Head small and neat, neck short, well quartered and fleshed low down, good back and loin, meat firm and of fine quality.

The second premium ewe, while much lighter in weight, was a very superior and well ripened yearling, evenly fattened and showing good breeding and feeding qualities.

Ewe under one year—1 entry.

No.	Exhibiter.	Age in days...	Weight Nov. 10 1879.....	Average gain per day in lbs since birth....	Name of animal.	Breed.
219	Geo. Hood, Guelph, Ca....	240	100	0.41	Bess Armstrong.	Southdown....
	Average.....	240	100	0.41		

First premium, \$15 00; Bess Armstrong, exhibited by Geo. Hood, Guelph, Ca.

REPORT OF COMMITTEE.

There was but one animal entered in this ring; a large, thrifty, well-developed lamb, with all the characteristics of fine butchers' stock; only needing age to make a most desirable carcass of mutton.

LOT 14—GRADES OR CROSSES.

Wether, 2 years old or over—18 entries.

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1879.....	Average gain per day in lbs since birth....	Name of Animal.	Breed.
220	S. A. Fox, Waukesha, Wis.	970	202	0.21	Palmer 1st.....	Grade Cotswold...
221	Geo. Pickrell, Wheatfield..	1,238	204	0.15	Dan	Grade Cotswold ..
222	Geo. Carey, Rochelle.....	939	195	0.21	John	Grade Cotswold...
223	Geo. Pickrell, Wheatfield...	1,653	200	0.13	Ben	Grade Cotswold...
224	Geo. Carey, Rochelle.....	939	200	0.21	Jacob	Grade Cotswold...
225	James Cotton, Rockford.....	927	247	0.28	Hudson	Grade Shropshire.
226	James Cotton, Rockford.....	924	230	0.24	Moawequa.....	Grade Shropshire.
227	Geo. Pickrell, Wheatfield...	923	204	0.23	O. P.	Grade Southdown.
228	Geo. Pickrell, Wheatfield...	923	215	0.23	Jim Griffith...	Grade Southdown.
229	Geo. Pickrell, Wheatfield...	923	222	0.24	Barney	Grade Southdown.
230	Geo. Pickrell, Wheatfield...	1,238	198	0.15	Geo. Smith	Grade Southdown.
231	Geo. Pickrell, Wheatfield...	1,238	199	0.15	Campbell	Grade Southdown.
232	Geo. Hood, Guelph, Ca.....	970	208	0.21	Farm Lad	Grade Leicester ..
233	Geo. Hood, Guelph, Ca.....	970	221	0.23	Farm Pride	Grade Leicester ..
234	Geo. Hood, Guelph, Ca.....	970	241	0.23	Robin	Grade Leicester ..
235	Frank Wilson, Jackson, Mich	1,335	242	0.18	John	Grade Shropshire.
236	Frank Wilson, Jackson, Mich	1,335	223	0.17	Tom	Grade Shropshire.
237	Taylor Bros., Waynesville..	1,303	155	0.14	Beauty.....	Grade Shropshire.
Average		1,103	213	0.19		

First premium \$15 00; Hudson, exhibited by James Cotton, Rockford.

Second premium \$10 00; Jim Griffith, exhibited by Geo. Pickrell, Wheatfield.

REPORT OF COMMITTEE.

This ring was made up of a large number of good sheep, the crosses of the leading mutton breeds. The weights ranging from 185 to 247 pounds, there was scarcely an inferior animal in the ring.* All were well fattened, with flesh evenly distributed.

The first prize wether, a grade Shropshire, was a very blocky, heavy sheep with small neat head, short neck deep brisket, legs wide apart, well filled back and loin, quarters heavy and well proportioned. Meat firm and of fine quality.

The second premium was awarded to a grade Southdown. This animal, while not as heavy as some of his competitors, was evenly ratted with a large percentage of meat distributed to the best advantage for the profit of butcher and the choice of the consumer.

Wether one and under two years—12 entries:

No.	Exhibiter.	Age in years....	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
238	S. A. Fox, Waukesha, Wis.	607	160	0.26	Palmer 2d	Grade Cotswold...
239	Geo. Carey, Rochelle.....	513	163	0.32	Henry	Grade Leicester...
240	Geo. Carey, Rochelle.....	513	169	0.32	Isaac	Grade Leicester...
241	Geo. Carey, Rochelle.....	513	165	0.32	Peter	Grade Leicester...
242	Geo. Pickrell, Wheatfield...	558	186	0.33	Elder	Grade Southdown.
243	Geo. Pickrell, Wheatfield...	558	179	0.32	Hesser	Grade Southdown.
244	Geo. Pickrell, Wheatfield...	558	174	0.31	Sudduth.....	Grade Southdown.
245	Geo. Pickrell, Wheatfield...	558	177	0.31	Moreland	Grade Southdown.
246	Geo. Pickrell, Wheatfield...	558	180	0.32	Taylor	Grade Southdown.
247	T. L. Miller, Beecher.....	574	203	0.33	Richard	Grade Cotswold...
248	Geo. Hood, Guelph, Ca.....	605	182	0.30	Oxford.....	Grade Oxford
249	Geo. Hood, Guelph, Ca.....	605	179	0.29	Oxford Boy.....	Grade Oxford
Average		560	177	0.31		

First premium, \$15 00; Richard, exhibited by T. L. Miller, Beecher.

Second premium, \$10 00; Sudduth, exhibited by Geo. Pickrell, Wheatfield.

REPORT OF COMMITTEE.

This ring was made up of a choice lot of cross-bred yearling sheep, in splendid condition for the block.

The first premium was awarded a Cotswold grade, the heaviest sheep in the ring. This animal showed the greatest average gain per day, and was evenly fleshed with thick meat of good quality.

The second premium wether, a grade Southdown, was a choice mutton sheep with good distribution of meat of fine quality.

Wether under one year old—4 entries:

No.	Exhibitor.	Age in days ...	Weight Nov. 10, 1879,	Average gain per day in lbs. since birth ...	Name of Animal.	Breed.
250	Geo. Carey, Rochelle	209	121	0 40	William	Grade Leicester...
251	Geo. Hood, Guelph, Can.	240	134	0 55	Arkel	Grade Southdown.
252	Frank Willson, Jackson, Mich.	240	127	0 52	Hall	Grade Cotswold...
253	Frank Willson, Jackson, Mich.	240	130	0 54	John Hall	Grade Cotswold...
Average		254	128	0 50		

First premium. \$15 00, Arkel, exhibited by Geo. Hood, Guelph, Canada.

Second premium, \$10 00, William, exhibited by Geo. Carey, Rochelle.

REPORT OF COMMITTEE.

All of the lambs in this ring were well developed for age, smooth and well fleshed.

The first premium was awarded to a grade Southdown of compact symmetrical form with good back and loin and heavy quarters.

The second premium was awarded a grade Leicester of fine form and finish for the block.

Ewe 2 years old or over—10 entries:

No.	Exhibitor.	Age in days...	Weight Nov. 10, 1879,	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
254	S. A. Fox, Waukesha, Wis.	1,363	199	0 14	Porter	Grade Cotswold...
255	Geo. Carey, Rochelle	1,335	238	0 17	Alice	Grade Leicester...
256	Geo. Carey, Rochelle	1,700	207	0 12	Grace	Grade Leicester...
257	Geo. Pickrell, Wheatfield...	1,288	183	0 14	Sallie	Grade Cotswold...
258	Geo. Pickrell, Wheatfield...	1,288	171	0 13	Susie	Grade Cotswold...
259	Geo. Pickrell, Wheatfield ..	1,288	180	0 14	Jane	Grade Cotswold...
260	Geo. Hood, Guelph, Ca.	939	267	0 23	Lady Lincoln	Grade Leicester...
261	Geo. Hood, Guelph, Ca.	970	209	0 21	Miss Stewart	Grade Leicester...
262	Geo. Hood, Guelph, Ca.	970	267	0 27	Lady Leicester	Grade Leicester...
263	Geo. Hood, Guelph, Ca.	970	230	0 23	Lady Stewart	Grade Leicester...
Average		1,211	215	0 17		

First premium, \$15 00, Lady Lincoln, exhibited by Geo. Hood, Guelph, Ca.

Second premium, \$10 00, Alice, exhibited by Geo. Carey, Rochelle.

REPORT OF COMMITTEE.

The first premium was awarded to a grade Leicester ewe, one of the heaviest sheep in the ring, a large, square, nicely proportioned animal, well and evenly fleshed with thick meat, firm, mellow, and of superior quality.

The second premium ewe was a grade Leicester, a very even match for the first premium ewe, excepting the weight and the most profitable distribution of flesh.

Ewe 1 and under 2 years—4 entries:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
264	S. A. Fox, Waukesha, Wis..	574	167	0.29	Benedict . . .	Grade Cotswold...
265	Geo. Carey, Rochelle.....	574	182	0.31	May	Grade Leicester...
266	Geo. Hood, Guelph, Canada.	605	152	0.25	Oxford Lass	Grade Oxford
267	Geo. Hood, Guelph, Canada.	605	140	0.23	Quarrie	Grade Southdown.
Average		589	160	0.27		

First premium, \$15 00, Oxford Lass, exhibited by Geo. Hood, Guelph, Canada.

Second premium, \$10 00, May, exhibited by Geo. Carey, Rochelle.

REPORT OF COMMITTEE.

The ewe receiving the first premium was a grade Oxford, and while not as heavy as some of the other sheep in the same ring was much superior in form and distribution of meat in the best quarters and would cut to the greatest profit for the butcher.

The second premium ewe, a grade Leicester, was the heaviest animal in the ring and showed the largest average gain per day, but lacked the nicely rounded form and handling qualities of the animal awarded the first honor.

Ewe under one year—2 entries.

No.	Exhibiter.	Age in days..	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
268	Geo. Hood, Guelph, Ca. . .	240	117	0.48	Beauty.....	Grade Cotswold...
269	Geo. Carey, Rochelle.....	179	134	0.74	Ruth.....	Grade Leicester.
Average.....		209	125	0.60		

First premium, \$15 00, Ruth, exhibited by Geo. Carey, Rochelle

Second premium, \$10 00, Beauty, exhibited by Geo. Hood, Guelph, Ca.

REPORT OF COMMITTEE.

There were only two animals in this ring, either of which would have received favorable consideration in a larger ring of good fat lambs.

The first premium lamb, a grade Leicester, was the heaviest and best formed mutton sheep, well fattened and a profitable sheep for the butcher and his customer.

LOT 15—SWEEPSTAKES.

OPEN TO ALL.

Whether two years old or over—20 entries.

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
185	J. A. Brown & Son, Decatur	970	247	0.25	Quick	Cotswold.....
230	Geo. Pickrell, Wheatfield...	1,238	198	0.15	Geo. Smith.....	Grade Southdown.
186	J. A. Brown & Son, Decatur	970	260	0.27	Slow	Cotswold.....
231	Geo. Pickrell, Wheatfield...	1,238	199	0.15	Campbell	Grade Southdown.
186	Geo. Pickrell, Wheatfield...	1,653	165	0.10	Uncle Jake	Southdown
182	John Gosling, Rockford	919	155	0.17	Wentworth	Southdown
187	Geo. Pickrell, Wheatfield...	1,653	174	0.10	Nick	Southdown
220	S. A. Fox, Waukesha, Wis.	970	202	0.21	Palmer 1st	Grade Cotswold...
188	Geo. Pickrell, Wheatfield...	1,238	190	0.14	Harvey	Southdown
184	Geo. Carey, Rochelle	939	185	0.19	Ed. Holton	Southdown
138	T. L. Miller, Beecher	939	262	0.23	George	Cotswold.....
183	Geo. Carey, Rochelle.....	1,304	204	0.15	Wesson	Southdown
139	Geo. Hood, Guelph, Can....	969	300	0.31	Guelph	Leicester
225	James Cotton, Rockford....	927	247	0.26	Hudson	Grade Shropshire.
234	Geo. Hood, Guelph, Can....	970	241	0.25	Robin	Grade Leicester...
140	Geo. Hood, Guelph, Can....	970	273	0.25	Ontario	Leicester
226	James Cotton, Rockford ..	924	230	0.24	Moavequa	Grade Shropshire.
229	Geo. Pickrell, Wheatfield...	923	223	0.24	Barney.....	Grade Southdown.
235	Frank Willson, Jackson, Mich	1,335	242	0.18	John	Grade Shropshire.
236	Frank Willson, Jackson, Mich	1,335	223	0.17	Tom.....	Grade Shropshire
Average		1,127	221	0.19		

Premium, \$25 00, George, exhibited by T. L. Miller, Beecher.

This ring was composed of twenty of the best aged wethers in the show, a number of which had received premiums in their respective classes.

All the recognized mutton breeds and their crosses were represented and while the animals as a lot were much above the average of good sheep the majority were excellent specimens, with straight top and bottom lines, broad backs, good well filled quarters, and a deep covering of thick ripe flesh, firm mellow and of fine quality.

The sweepstakes premium was awarded to a pure bred Cotswold which nearly approached the butchers' model of a mutton sheep. This sheep excelled his competitors in the even and better distribution of meat, straight top and bottom lines, well filled and heavy quarters, small head, neat and short neck.

LOT 15—SWEEPSTAKES.

Whether one and under two years—12 entries:

No	Exhibiter.	Age in days....	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
238	S. A. Fox, Waukesha, Wis..	605	160	0.26	Palmer 2d	Grade Cotswold...
144	J. A. Brown & Son, Decatur.	574	218	0.38	Favorite	Cotswold
241	Geo. Carey, Rochelle.....	513	165	0.32	Peter	Grade Leicester...
145	Geo. Hood, Guelph, Ca....	605	221	0.36	Snell	Cotswold
198	Geo. Pickrell, Wheatfield...	558	186	0.33	Alvey	Southdown
201	Geo. Pickrell, Wheatfield...	558	161	0.29	Scott	Southdown
202	Geo. Pickrell, Wheatfield...	558	180	0.32	Arthur	Southdown
242	Geo. Pickrell, Wheatfield...	558	186	0.33	Elder	Grade Southdown.
243	Geo. Pickrell, Wheatfield...	558	179	0.32	Hesser	Grade Southdown.
246	Geo. Pickrell, Wheatfield...	558	180	0.32	Taylor	Grade Southdown.
142	T. L. Miller, Beecher.....	574	177	0.31	Dick	Cotswold.....
247	T. L. Miller, Beecher.....	574	209	0.36	Richard.....	Grade Cotswold...
Average		566	185	0.33		

Premium, \$25 00, Snell, exhibited by Geo. Hood, Guelph, Can.

REPORT OF COMMITTEE.

This was a superb ring of very evenly matched fat sheep, considering the breeds, and so nearly alike in quality as to render a decision difficult.

After a critical examination, the sweepstakes premium for the best wether 1 and under 2 years in the show, all breeds and crosses competing, was awarded to a pure bred Cotswold, not only the heaviest animal in the ring, but, with one exception, had made as large an average gain per day as any of his competitors.

This superior animal excelled in the form most highly prized by the expert, was evenly and well fattened with the most profitable distribution of excellent meat, and a very desirable animal for breeder, butcher, or the consumer.

. LOT 15—SWEEPSTAKES.

Wether under one year—6 entries:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1899.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
250	Geo. Carey, Rochelle.....	299	121	0.40	William.....	Grade Leicester...
204	Geo. Pickrell, Wheatfield....	193	96	0.49	Bud Lucky.....	Southdown.....
205	Geo. Pickrell, Wheatfield....	193	92	0.47	T. J.....	Southdown.....
147	Geo. Hood, Guelph, Canada.	240	150	0.62	John.....	Cotswold.....
251	Geo. Hood, Guelph, Canada.	240	134	0.55	Arkel.....	Grade Southdown.
252	Frank Willson, Jackson, Mich.	240	127	0.52	Hall.....	Grade Cotswold..
	Average.....	234	120	0.51		

Premium \$25 00, Arkel, exhibited by Geo. Hood, Guelph, Canada.

REPORT OF COMMITTEE.

The animals were all very superior, well fattened lambs, and either pure bred or very high grades.

The sweepstakes premium was awarded a high grade Southdown, the smoothest and most blocky animal in the ring, well fleshed in the best parts, with meat of extra quality and would net the largest percentage of good meat to gross of any lamb in the ring.

LOT 15—SWEEPSTAKES.

Ewe two years old or over—20 entries.

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1899.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
148	W. Moffatt & Bro., Paw Paw	1,304	323	0.25	Black Eye.....	Cotswold.....
210	Geo. Pickrell, Wheatfield...	923	166	0.17	Lady Southdown.	Southdown.....
151	W. Moffatt & Bro., Paw Paw	1,304	316	0.24	Sallie Mitchell...	Cotswold.....
211	Geo. Pickrell, Wheatfield....	923	172	0.18	Belle.....	Southdown.....
206	J. A. Brown & Son, Decatur	970	247	0.25	Queen.....	Shropshire.....
212	Geo. Pickrell, Wheatfield....	1,288	174	0.13	Queen.....	Southdown.....
254	S. A. Fox, Waukesha, Wis.	1,363	199	0.14	Porter.....	Grade Cotswold..
213	Geo. Pickrell, Wheatfield....	2,018	178	0.08	Bess.....	Southdown.....
207	Luke Teeple, Belvidere....	1,318	170	0.13	Beauty.....	Southdown.....
152	T. L. Miller, Beecher.....	909	250	0.37	Elsie.....	Cotswold.....
157	Frank Willson, Jackson, Mich.	1,335	285	0.21	Teastle.....	Cotswold.....
208	Geo. Carey, Rochelle.....	939	188	0.19	Lucy.....	Southdown.....
154	Geo. Hood, Guelph, Ca.....	1,335	342	0.25	Lady Snell.....	Cotswold.....
156	Geo. Hood, Guelph, Ca.....	1,335	287	0.21	Lady Waters.....	Cotswold.....
209	James Cotton, Rockford....	1,333	195	0.14	Bostock.....	Shropshire.....
153	T. L. Miller, Beecher.....	909	275	0.30	May Day.....	Cotswold.....
158	Abner Strawn, Ottawa.....	1,700	330	0.18	Strawn 84.....	Cotswold.....
159	Abner Strawn, Ottawa.....	1,700	355	0.15	Strawn 346.....	Cotswold.....
161	Abner Strawn, Ottawa.....	1,700	271	0.16	Strawn 320.....	Cotswold.....
160	Abner Strawn, Ottawa.....	1,700	243	0.14	Strawn 318.....	Cotswold.....
	Average.....	1,315	238	0.18		

Premium, \$25 00, Queen, exhibited by J. A. Brown & Son, Decatur.

REPORT OF COMMITTEE.

This ring included superior specimens of the prominent mutton breeds, with hardly an animal that would not be considered a strictly first-class mutton sheep.

The sweepstakes ewe was a pure bred Shropshire, compact and well proportioned, with good broad back and deep loin; heavy, well filled quarters, smooth and evenly fattened throughout and in the best of condition for the block; small, neat head, short and nicely tapering neck, well rounded shoulder; fine in bone with comparatively little offal.

LOT 15--SWEEPSTAKES.

Ewe one and under two years--15 entries:

No.	Exhibiter.	Age in days ...	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
264	S. A. Fox, Waukesha, Wis..	574	167	0.29	Benedict.....	Grade Cotswold...
265	Geo. Carey, Rochelle.....	574	182	0.31	May.....	Grade Leicester...
164	T. L. Miller, Beecher.....	574	173	0.30	Alice.....	Cotswold.....
165	T. L. Miller, Beecher.....	574	183	0.32	Kate.....	Cotswold.....
166	Geo. Hood, Guelph, Canada.	605	197	0.32	Lady Kirby.....	Cotswold.....
216	James Cotton, Rockford...	606	185	0.30	Byrd.....	Shropshire.....
176	Abner Strawn, Ottawa.....	605	237	0.39	Strawn 242.....	Cotswold.....
175	Abner Strawn, Ottawa.....	605	243	0.40	Strawn 243.....	Cotswold.....
174	Abner Strawn, Ottawa.....	605	240	0.39	Strawn 244.....	Cotswold.....
173	Abner Strawn, Ottawa.....	605	240	0.39	Strawn 245.....	Cotswold.....
172	Abner Strawn, Ottawa.....	605	270	0.44	Strawn 246.....	Cotswold.....
171	Abner Strawn, Ottawa.....	605	232	0.38	Strawn 247.....	Cotswold.....
170	Abner Strawn, Ottawa.....	605	263	0.43	Strawn 218.....	Cotswold.....
169	Abner Strawn, Ottawa.....	605	240	0.39	Strawn 249.....	Cotswold.....
168	Abner Strawn, Ottawa.....	605	249	0.41	Strawn 250.....	Cotswold.....
Average ...		597	220	0.36		

Premium, \$25 00, Strawn 243, exhibited by Abner Strawn, Ottawa.

REPORT OF COMMITTEE.

The best representatives of all the yearling ewes on exhibition were included in this ring, any of which reflected credit upon the breeder and feeder.

The honor was awarded a pure bred Cotswold, well worthy the sweepstakes premium.

In form, condition of ripeness, evenness and thickness of mellow, firm flesh, this ewe was all that could be desired and much better than could reasonably be expected, considering the age of the ewe.

LOT 15--SWEEPSTAKES.

Ewe, under 1 year--5 entries:

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
268	Geo. Carey, Rochelle.....	179	134	0.74	Ruth.....	Grade Leicester...
178	T. L. Miller, Beecher.....	209	123	0.61	Gipsy.....	Cotswold.....
179	T. L. Miller, Beecher.....	209	130	0.62	Topsy.....	Cotswold.....
180	Geo. Hood, Guelph, Ca.....	240	133	0.55	Rose Kirby.....	Cotswold.....
181	Frank Willson, Jackson, Mich	240	139	0.58	Willson.....	Cotswold.....
Average		215	133	0.61		

Premium, \$25 00, Willson, exhibited by Frank Willson, Jackson, Mich.

REPORT OF COMMITTEE.

This lambs in this ring were well matured for age, smooth, evenly and well fatted.

The Cotswold lamb awarded the sweepstakes premium was the heaviest in the ring, rather more compact than his competitors, with heavier and better proportioned quarters.

LOT 16—GRAND SWEEPSTAKES.

Wether of any age—22 entries:

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth...	Name of Animal.	Breed.
135	J. A. Brown & Son, Decatur	970	247	0.25	Quick	Cotswold.....
138	T. L. Miller, Beecher.....	939	232	0.23	George.....	Cotswold.....
136	J. A. Brown & Son, Decatur.	970	260	0.27	Slow	Cotswold.....
247	T. L. Miller, Beecher.....	574	209	0.36	Richard.....	Grade Cotswold...
144	J. A. Brown & Son, Decatur.	574	218	0.38	Favorite	Cotswold.....
139	Geo. Hood, Guelph, Ca.....	969	300	0.31	Guelph.....	Leicester
182	John Gosling, Rockford....	919	155	0.17	Wentworth.....	Southdown
140	Geo. Hood, Guelph, Ca.....	970	272	0.28	Ontario.....	Leicester
220	S. A. Fox, Waukesha, Wis...	970	202	0.21	Palmer 1.....	Grade Cotswold...
234	Geo. Hood, Guelph, Ca.....	970	241	0.25	Robin.....	Grade Leicester...
184	Geo. Carey, Rochelle.....	939	185	0.19	Ed. Holton.....	Southdown
225	James Cotton, Rockford...	927	247	0.26	Hudson.....	Grade Shropshire.
200	Geo. Pickerell, Wheatfield..	558	163	0.29	Jacob Bird.....	Southdown
186	Geo. Pickerell, Wheatfield..	1,653	165	0.10	Uncle Jake.....	Southdown
230	Geo. Pickerell, Wheatfield..	1,288	198	0.15	Geo. Smith.....	Grade Southdown.
187	Geo. Pickerell, Wheatfield..	0,653	174	0.10	Nick	Southdown.....
231	Geo. Pickerell, Wheatfield..	1,288	199	0.15	Campbell.....	Grade Southdown.
188	Geo. Pickerell, Wheatfield..	1,288	190	0.14	Harvey.....	Southdown
145	Geo. Hood, Guelph, Ca.....	605	221	0.36	Snell.....	Cotswold.....
235	Frank Willson, Jackson, Mich	1,335	242	0.18	John	Grade Shropshire.
236	Frank Willson, Jackson, Mich	1,355	223	0.18	Tom	Grade Shropshire.
195	Taylor Bros., Waynesville..	1,309	190	0.14	Prince	Shropshire.....
Averaged... ..		1,045	216	0.21		

Premium, \$30 00; John, exhibited by Frank Willson, Jackson, Michigan.

REPORT OF COMMITTEE.

A better lot of well-matured, fat sheep has seldom ever been brought together.

The Grand Sweepstakes prize for wether of any age was awarded a grade Shropshire. of superior quality, with round, smooth and compact body, deeply covered with firm, mellow lean meat distributed in the best cuts; heavy quarters, and smaller percentage for waste than his competitors.

LOT 16—GRAND SWEEPSTAKES.

Ewe of any age—28 entries:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
208	Geo. Carey, Rochelle	939	186	0.19	Lucy	Southdown
216	James Cotton, Rockford	606	185	0.30	Byrd	Shropshire
210	Geo. Pickrell, Wheatfield	923	168	0.17	Lady Southdown	Southdown
211	Geo. Pickrell, Wheatfield	923	172	0.18	Belle	Southdown
212	Geo. Pickrell, Wheatfield	1,288	174	0.13	Queen	Southdown
213	Geo. Pickrell, Wheatfield	2,018	178	0.08	Bess	Southdown
215	Taylor Bros., Waynesville	2,045	193	0.09	Queen	Shropshire
148	Wm. Moffatt & Bro., PawPaw	1,804	323	0.25	Black Eye	Cotswold
152	T. L. Miller, Beecher	909	250	0.27	Elsie	Cotswold
149	Wm. Moffatt & Bro., PawPaw	1,308	264	0.20	Miss Simon	Cotswold
153	T. L. Miller, Beecher	909	275	0.30	May Day	Cotswold
206	J. A. Brown & Son, Decatur	970	247	6.25	Queen	Shropshire
154	Geo. Hood, Guelph, Canada	1,335	342	0.25	Lady Snell	Cotswold
251	S. A. Fox, Waukesha, Wis	1,363	199	0.14	Porter	Grade Cotswold
156	Geo. Hood, Guelph, Canada	1,335	287	0.21	Lady Walters	Cotswold
207	Luke Teepie, Belvidere	1,318	170	0.13	Beauty	Southdown
157	Frank Willson, Jackson, Mich	1,335	285	0.21	Teastle	Cotswold
158	Abner Strawn, Ottawa	1,700	230	0.13	Strawn 84	Cotswold
172	Abner Strawn, Ottawa	605	270	0.44	Strawn 246	Cotswold
171	Abner Strawn, Ottawa	605	232	0.38	Strawn 247	Cotswold
170	Abner Strawn, Ottawa	605	263	0.43	Strawn 248	Cotswold
169	Abner Strawn, Ottawa	605	240	0.39	Strawn 249	Cotswold
168	Abner Strawn, Ottawa	605	249	0.41	Strawn 250	Cotswold
176	Abner Strawn, Ottawa	605	237	0.39	Strawn 242	Cotswold
175	Abner Strawn, Ottawa	605	245	0.40	Strawn 243	Cotswold
174	Abner Strawn, Ottawa	605	240	0.39	Strawn 244	Cotswold
Average		1,035	235	0.23		

Premium, \$30 00, Lady Snell, exhibited by Geo. Hood, Guelph, Canada.

REPORT OF COMMITTEE.

This ring was the largest of any in the sheep class and included the best ewes of the several ages and breeds on exhibition.

The leading American and Canadian flocks were most creditably represented and the committee experienced great difficulty in arriving at a satisfactory decision, as a number of the animals were quite evenly mated in the more essential points of excellence.

The grand sweepstakes premium was awarded a pure bred Cotswold ewe which nearly approached the standard of perfection for a mutton sheep, low, blocky and compact in form, well covered with a superior quality of firm, mellow, lean meat distributed in the best cuts, heavy, well filled and nicely proportioned quarters, small head, short, neat neck, reasonably small bone, and presenting unmistakable evidence of dressing a large percentage of carcass to live weight.

LOT 17—CAR LOADS.

Car-load Fat Sheep, not less than thirty head—8 entries:

No.	Exhibiter.	Age in days....	Weight, Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
1	Geo. Pickrell, Wheatfield...	553	177	0.31	Moreland	Grade Southdown
2		1,238	174	0.13	Queen	Southdown
3		553	179	0.32	J. M. Bird	Southdown
4		923	168	0.17	Lady Southdown	Southdown
5		1,653	165	0.10	Uncle Jake	Southdown
6		1,238	190	0.14	Harvey	Southdown

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1897.....	Average gain per day in lbs since birth....	Name of Animal.	Breed.	
7	Geo. Pickrell, Wheatfield...	923	215	0.23	.....	.....
8		1,288	183	0.14	Sallie.....	Grade Cotswold...	
9		1,288	198	0.15	Geo Smith.....	Grade Southdown.	
10		923	172	0.13	Belle.....	Southdown.....	
11		1,288	204	0.15	Dan.....	Grade Cotswold...	
12		1,288	199	0.16	Campbell.....	Grade Southdown.	
13		1,288	171	0.13	Susie.....	Grade Cotswold...	
14		1,653	174	0.10	Nick.....	Southdown.....	
15		923	204	0.23	O. P.....	Grade Southdown.	
16		558	174	0.31	Sudduth.....	Grade Southdown.	
17		923	222	0.24	Barney.....	Grade Southdown.	
18		923	215	0.23	Jim. Griffith.....	Grade Southdown.	
19		1,288	180	0.14	Jane.....	Grade Cotswold...	
20		558	180	0.32	Taylor.....	Grade Southdown.	
21		558	163	0.29	Jacob Bird.....	Southdown.....	
22		558	186	0.33	Elder.....	Grade Southdown.	
23		553	179	0.32	Hesser.....	Grade Southdown.	
24		2,018	178	0.08	Bess.....	Southdown.....	
25		1,653	2-0	0.12	Ben.....	Grade Cotswold..	
26		558	186	0.33	Alvey.....	Southdown.....	
27		558	180	0.32	Arthur.....	Southdown.....	
28		1,288	182	0.14	Todd.....	Southdown.....	
29		1,288	204	0.16	Dave Hall.....	Cotswold.....	
30		1,288	215	0.16	Grout.....	Southdown.....	
Average.....		1,057	187	0.18			

CAR-LOADS.

Car-load Fat Sheep, not less than thirty head:

No.	Exhibitor.	Age in days....	Weight Nov. 10, 1897.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
1	Abner Strawn, Ottawa.....	1,700	162	0.11	Strawn 33.....	Cotswold.....
2		1,700	180	0.10	Strawn 12.....	Cotswold.....
3		605	197	0.32	Strawn 187.....	Cotswold.....
4		605	182	0.30	Strawn 163.....	Cotswold.....
5		605	203	0.33	Strawn 164.....	Cotswold.....
6		605	189	0.31	Strawn 168.....	Cotswold.....
7		605	241	0.39	Strawn 167.....	Cotswold.....
8		605	217	0.35	Strawn 166.....	Cotswold.....
9		1,700	271	0.16	Strawn 320.....	Cotswold.....
10		1,700	230	0.13	Strawn 84.....	Cotswold.....
11		1,700	255	0.15	Strawn 346.....	Cotswold.....
12		605	223	0.36	Strawn 161.....	Cotswold.....
13		1,700	243	0.14	Strawn 318.....	Cotswold.....
14		605	237	0.39	Strawn 212.....	Cotswold.....
15		605	243	0.43	Strawn 243.....	Cotswold.....
16		605	240	0.39	Strawn 244.....	Cotswold.....
17		605	240	0.39	Strawn 245.....	Cotswold.....
18		605	270	0.44	Strawn 246.....	Cotswold.....
19		605	232	0.38	Strawn 247.....	Cotswold.....
20		605	240	0.39	Strawn 165.....	Cotswold.....
21		605	263	0.43	Strawn 248.....	Cotswold.....
22		605	249	0.41	Strawn 250.....	Cotswold.....
23		605	232	0.38	Strawn 241.....	Cotswold.....

LOT 17—Continued.

No.	Exhibiter.	Age in days...	Weight, Nov. 10, 1870.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
24	Abner Strawn, Ottawa	605	233	0.35	Strawn 258	Cotswold
25		605	225	0.37	Strawn 159	Cotswold
26		605	240	0.39	Strawn 249	Cotswold
27		605	247	0.41	Strawn 160	Cotswold
28		605	230	0.38	Strawn 206	Cotswold
29		605	246	0.40	Strawn 72	Cotswold
30		605	169	0.28	Strawn 85	Cotswold
Average.		824	228	0.27		

Car-load fat sheep, not less than thirty head:

No.	Exhibiter.	Age in days...	Weight Nov. 10 1879.....	Average gain per day in lbs since birth...	Name of Animal.	Breed.
1	Geo. Carey, Rochelle.		191			
2		513	169	0.32	Isaac	Grade Leicester ..
3			165			
4		939	195	0.21	John	Grade Cotswold...
5			173			
6		513	168	0.32	Henry	Grade Leicester...
7			162			
8			176			
9			172			
10			176			
11			171			
12			180			
13			167			
14			190			
15			190			
16			187			
17		574	182	0.31	May	Grade Leicester ..
18			167			
19			170			
20			162			
21			171			
22			206			
23			163			
24			158			
25			173			
26			167			
27			149			
28			163			
29			153			
30		513	165	0.32	Peter	Grade Leicester ..
31		939	185	0.19	Ed Holton	Southdown
32		939	186	0.13	Lucy	Southdown
33		1,304	204	0.15	Wesson	Southdown
34		939	184	0.19	Edson	Southdown
Average.....			174			

Car-load Fat Sheep not less than thirty head:

No.	Exhibiter.	Age in days ...	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth ...	Name of Animal.	Breed.
1	S. A. Fox, Waukesha, Wis.	970	202	0.21	Palmer 1.....	Grade Cotswold..
2		605	160	0.26	Palmer 2....	Grade Cotswold..
3		574	167	0.29	Benedict....	Grade Cotswold..
4		1,363	199	0.14	Porter	Grade Cotswold..
5		.....	170	.....	.....	.....
6		.....	184	.....	.....	.....
7		.....	177	.....	.....	.....
8		.....	188	.....	.....	.....
9		.....	147	.....	.....	.....
10		.....	176	.....	.....	.....
11		.....	190	.....	.....	.....
12		.....	179	.....	.....	.....
13		.....	169	.....	.....	.....
14		.....	153	.....	.....	.....
15		.....	181	.....	.....	.....
16		.....	151	.....	.....	.....
17		.....	159	.....	.....	.....
18		.....	146	.....	.....	.....
19		.....	149	.....	.....	.....
20		.....	144	.....	.....	.....
21		.....	149	.....	.....	.....
22		.....	152	.....	.....	.....
23		.....	158	.....	.....	.....
24		.....	149	.....	.....	.....
25		.....	133	.....	.....	.....
26		.....	135	.....	.....	.....
27		.....	179	.....	.....	.....
28		.....	136	.....	.....	.....
29		.....	123	.....	.....	.....
30		.....	162	.....	.....	.....
Average .....		.....	162	.....	.....	.....

Car-load Fat Sheep, not less than thirty head:

No.	Exhibiter.	Age in days....	Weight, Nov. 10, 1879	Average gain per day in lbs. since birth	Name of Animal.	Breed.
1	T. L. Miller, Beecher..	909	250	0.27	Elsie	Cotswold.....
2		909	275	0.30	May Day	Cotswold.....
3		574	173	0.30	Alice	Cotswold.....
4		574	183	0.32	Kate	Cotswold.....
5		939	262	0.28	George.....	Cotswold.....
6		574	177	0.31	Dick	Cotswold.....
7		574	158	0.27	Bob	Cotswold.....
8		574	209	0.36	Richard	Grade Cotswold...
9		.....	195	.....	.....	.....
10		.....	197	.....	.....	.....
11		.....	183	.....	.....	.....
12		.....	188	.....	.....	.....
13		.....	193	.....	.....	.....
14		.....	208	.....	.....	.....
15		.....	198	.....	.....	.....
16		.....	189	.....	.....	.....
17		.....	190	.....	.....	.....
18		.....	186	.....	.....	.....
19		.....	184	.....	.....	.....
20		.....	204	.....	.....	.....
21		.....	224	.....	.....	.....
22		.....	167	.....	.....	.....

LOT 17—Continued.

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1879,	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
23	T. L. Miller, Beecher.....	.....	171	.....	.....	.....
24	.....	.....	235	.....	.....	.....
25	.....	.....	258	.....	.....	.....
26	.....	.....	290	.....	.....	.....
27	.....	.....	244	.....	.....	.....
28	.....	.....	161	.....	.....	.....
29	.....	.....	250	.....	.....	.....
30	.....	.....	189	.....	.....	.....
	Average .....	.....	204	.....	.....	.....

Car-load Fat Sheep, not less than thirty head:

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1879,	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
1	Geo. Hood, Guelph, Ca. ...	970	272	0.28	Ontario	Leicester
2	169	300	0.31	Guelph	Leicester
3	970	229	0.33	Tom	Cotswold
4	240	134	0.55	Arkel	Grade Southdown.
5	605	193	0.33	Model	Cotswold
6	1,335	242	0.23	Lady Snell	Cotswold
7	605	221	0.36	Snell	Cotswold
8	240	150	0.62	John	Cotswold
9	605	197	0.32	Lady Kirby	Cotswold
10	240	124	0.55	.....	.....
11	1,335	239	0.18	Belle	Cotswold
12	1,335	237	0.21	Lady Waters	Cotswold
13	240	100	0.41	Bess Armstrong	Southdown
14	605	132	0.21	Rose Anderson	Southdown
15	240	133	0.55	Rose Kirby	Cotswold
16	1,335	244	0.18	Marion	Cotswold
17	1,335	233	0.17	Lady Stone	Cotswold
18	605	125	0.20	Lady Armstrong	Southdown
19	970	152	0.15	Armstrong	Southdown
20	970	209	0.21	Miss Stewart	Grade Leicester
21	605	140	0.23	Quarrie	Grade Southdown.
22	605	179	0.29	Oxford Boy	Grade Oxford
23	939	267	0.28	Lady Lincoln	Grade Leicester
24	970	221	0.23	Farm Pride	Grade Leicester
25	970	208	0.21	Farm Lad	Grade Leicester
26	970	241	0.25	Robin	Grade Leicester
27	605	182	0.30	Oxford	Grade Oxford
28	970	230	0.23	Lady Stewart	Grade Leicester
29	605	180	0.29	James	Southdown
30	970	241	0.25	.....	.....
	Average	798	204	0.25	.....	.....

First premium, \$60 00, Geo. Pickrell, Wheatfield.

Second premium, \$30 00, Abner Strawn, Ottawa.

REPORT OF COMMITTEE.

The six car-loads of sheep entered in this ring were what would be called a mixed lot, so far as ages and breeds are concerned, but animals of superior merit.

Some of the car lots were composed of sheep of the various breeds and crosses, while other car-load lots were made up of sheep of the same breeds, but of various ages. None of the lots were composed of what would be considered an even uniform lot of sheep.

The first premium car-load was made up mainly of Southdowns or their grades, averaging nearly three years of age: all were smooth, well fattened, and ripe for the block, and of a very superior quality.

The second premium car-load was made up of pure Cotswold sheep, mainly ewes, of various ages, ranging from 605 to 1,700 days old.

This lot was mainly composed of yearlings and showed remarkable weight for age, were well and evenly fattened, and a very profitable lot for the feeder, butcher and consumer.

CONCLUSION.

The members of the several awarding committees in the sheep department would respectfully suggest that better judging with much less labor and time would result in the future from a classification permitting only sheep of the same breed to compete in the various lots, other than sweepstakes.

DRESSED SHEEP.

At the request of exhibitors three tests were made by the expert judges of dressed sheep, as follows: First, "quality of mutton;" second, "fattest sheep;" third, "sheep dressing the largest percentage of meat in proportion to live weight."

The entries are as follows:

No.	Exhibitor.	Age in days..	Weight Nov 10, 1870.....	Average Fat in per day in lbs. since birth...	Name of Animal.	Breed.
226	James Cotton, Rockford.	924	230	0.24	Moweaqua	Grade Shropshire..
156	Geo. Hood, Guelph, Ca.	1,335	287	0.21	Lady Walters.	Cotswold
187	Geo. Pickrell, Wheatfield.	1,653	174	0.10	Nick	Southdown.....
183	Geo. Carey, Rochelle.	1,304	204	0.15	Wesson	Southdown.....
233	Geo. Hood, Guelph, Ca.	970	221	0.23	Farm Pride.	Grade Leicester.
214	Geo. Hood, Guelph, Ca.	870	152	0.15	Armstrong.	Southdown.....
225	James Cotton, Rockford	927	247	0.26	Hudson	Grade Shropshire
116	Geo. Pickrell, Wheatfield.	923	197	0.21	Downey	Southdown.....
249	Geo. Hood, Guelph, Ca.	605	179	0.29	Oxford Boy.	Grade Oxford.
217	Geo. Hood, Guelph, Ca.	605	125	0.20	Lady Armstrong.	Southdown.....
260	Geo. Hood, Guelph, Ca.	839	267	0.28	Lady Lincoln.	Grade Leicester..
164	James Cotton, Rockford.	870	247	0.25	Queen	Shropshire.....
Average.....		1,010	201	0.21		

REPORT OF COMMITTEE.

No.	Name of Exhibitor.	Name of Animal.	Breed.	Live weight 15. November 15.	Dressed weight	Percentage net to live weight
226	James Cotton, Rockford.	Moweaqua	Grade Shropshire.	230	146	63.5
156	George Hood, Guelph, Ca.	Lady Walters.	Cotswold	287	194	70.7
187	George Pickrell, Wheatfield.	Nick	Southdown	172	110	63.9
183	George Carey, Rochelle	Wesson.	Southdown	203	133	64.8
233	George Hood, Guelph, Ca.	Farm Pride.	Grade Leicester.	206	130	63.1
214	George Hood, Guelph, Ca.	Armstrong	Southdown	149	95	63.7
225	James Cotton, Rockford	Hudson	Grade Shropshire.	248	163	65.7
116	George Pickrell, Wheatfield.	Downey	Southdown	197	116	58.8
249	George Hood, Guelph, Ca.	Oxford Boy.	Grade Oxford.	176	100	56.7
217	George Hood, Guelph, Ca.	Lady Armstrong	Southdown	123	74	60.1
260	George Hood, Guelph, Ca.	Lady Lincoln	Grade Leicester.	271	178	65.6
164	James Cotton, Rockford	Queen	Grade Shropshire.	247	164	66.4
Average.....				208	133	63.9

BEST QUALITY OF MUTTON.

First premium, to Nick, exhibited by Geo. Pickrell, Wheatfield.

Second premium, Southdown ewe, Lady Armstrong, exhibited by George Hood, Guelph, Ontario, Canada.

FATTEST SHEEP.

First premium, grade Shropshire ewe, Queen, exhibited by James Cotton, Rockford.

Second premium, Cotswold ewe, Lady Walters, exhibited by George Hood, Guelph, Ontario, Canada.

SHEEP DRESSING THE LARGEST PERCENTAGE OF MEAT IN PROPORTION TO LIVE WEIGHT.

First premium, to Cotswold Ewe, Lady Walters, exhibited by George Hood, Guelph, Ontario, Canada.

Second premium, grade Shropshire ewe, Queen, exhibited by James Cotton, Rockford.

CLASS D—SWINE.

LOT 18—LARGE BREEDS.

Hog two years old or over—8 entries:

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1870.....	Average gain per day in lbs. since birth...	Name of Animal.	Breed.
271	B. J. Orton, Cambridge.....	1,231	853	0 66	Young Centennial	Poland.....
272	B. J. Orton, Cambridge.....	751	562	0 75	Mrs. Tilton.....	Poland.....
273	Oliver, Fell & Miner, Toulon.....	833	620	0 66	Sallie.....	Poland.....
274	H. C. Castle, Wilmington.....	809	637	0 71	Young Champion	Poland.....
275	H. C. Castle, Wilmington.....	1,261	690	0 51	Queen of West	Poland.....
276	T. L. Miller, Beecher.....	1,516	635	0 42	High'd Queen 5228	Berkshire.....
Average.....		1,009	668	0 61		

First premium, \$15 00, Mrs. Tilton, exhibited by B. J. Orton, Cambridge.

Second premium, \$10 00, Sallie, exhibited by Oliver, Fell & Miner, Toulon.

REPORT OF COMMITTEE.

The six animals comprising this lot were creditable representatives of two of the most popular breeds of swine.

The first premium was awarded a Poland-China sow, the youngest animal in the ring and showing larger average gain per day than any of her competitors. The premium sow was exceptionally fine and smooth throughout with lighter jaw and proportionately heavier ham.

The second premium sow was heavier, rather coarser and lacked the finish of the first prize winner.

Hog one and under two years—15 entries:

No.	Exhibiter.	Age in days..	Weight Nov. 10, 1870.....	Average gain per day in lbs. since birth..	Name of Animal.	Breed.
277	Geo. Reed, Belvidere.....	518	485	0 93	White Chap.....	Berkshire.....
278	Geo. Reed, Belvidere.....	518	488	0 94	Lop Ear.....	Berkshire.....
279	Geo. Reed, Belvidere.....	532	480	0 90	Captain Dick.....	Berkshire.....
280	J. A. Countryman, Rochelle.....	600	649	1 08	Bob Howard.....	Poland.....
281	J. A. Countryman, Rochelle.....	401	415	1 03	Chieftain, Jr.....	Poland.....
282	B. J. Orton, Cambridge.....	619	621	1 00	U. S. Grant.....	Poland.....
283	J. B. Howe, Seneca.....	720	.....	.....	Sally's Prince.....	Poland.....
284	Oliver Fell & Miner, Toulon.....	574	520	0 90	Grant.....	Poland.....
285	H. C. Castle, Wilmington.....	530	439	0 82	Negro.....	Poland.....
286	H. C. Castle, Wilmington.....	633	555	0 87	Jenny Lynd 3d.....	Poland.....
287	H. C. Castle, Wilmington.....	476	413	0 86	Summer Cloud.....	Poland.....
288	H. C. Castle, Wilmington.....	443	485	1 09	P. T. Barnum.....	Poland.....
289	T. L. Miller, Beecher.....	574	510	0 88	Dolly Varden.....	Berkshire.....
290	Frank Wilson, Jackson, Mich.....	483	*448	0 92	Grant.....	Berkshire.....
291	Frank Wilson, Jackson, Mich.....	483	*448	0 92	Sherman.....	Berkshire.....
Average.....		540	498	0 91		

REPORT OF COMMITTEE.

The superior quality of the animals in this ring made it a difficult matter to select the hogs deserving the first and second honors. The pure Poland barrow, Chieftain, jr., was awarded the first premium, as having the best proportioned quarters; small, neat head and jaw; good top and bottom lines. This barrow was of fine finish; stood well upon clean, neat limbs, and was with one exception the lightest animal in the ring.

Pig over six months old and under one year—10 entries:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1879.	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
292	Hewer Bros., Belvidere. . .	203	286	1.40	Hagar 6th	Berkshire.....
293	J. A. Countryman, Rochelle	231	273	1.18	Sheridan	Poland
294	J. A. Countryman, Rochelle	222	280	1.26	Lenox	Poland
295	B. J. Orton, Cambridge. . .	330	448	1.35	Bessie Turner	Poland
296	B. J. Orton, Cambridge. . .	330	434	1.31	Beecher	Poland
297	H. C. Castle, Wilmington. . .	237	334	1.40	Butcher's Boy. . .	Poland
298	H. C. Castle, Wilmington. . .	237	296	1.24	Qu'n Charlotte 4th	Poland
299	T. L. Miller, Beecher. . .	335	415	1.23	Empress	Berkshire.....
300	T. L. Miller, Beecher. . .	277	353	1.27	Eugenia.....	Berkshire.....
301	W. W. McClung, Hennepin.	211	274	1.29	Pocahontas	Poland
Average		261	339	1.29		

First premium, \$15 00, Butcher's Boy, exhibited by H. C. Castle, Wilmington.
Second premium, \$10 00, Bessie Turner, exhibited by B. J. Orton, Cambridge.

REPORT OF COMMITTEE.

This ring was composed of choice specimens of the Poland and Berkshire breeds and the committee having in view only the quality and value of the product, awarded the first premium to the pure Poland China barrow Butcher's Boy.

This animal (excepting a Berkshire sow) showed the greatest average gain per day since birth of any in the ring and gave other evidences of superior fattening qualities.

In the profitable distribution of meat the first premium animal excelled his competitors.

Pig under six months old—11 entries:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1879.	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
302	Hewer Bros., Belvidere	105	120	1.14	Lady Mary.....	Berkshire
303	Hewer Bros., Belvidere	137	149	1.08	Hopewells Pet....	Berkshire
305	B. J. Orton, Cambridge. . .	170	183	1.13	Beauty	Poland
304	J. A. Countryman, Rochelle	169	185	1.09	Ida Walrath	Poland
306	H. C. Castle, Wilmington. . .	134	110	0.82	Poland Beauty..	Poland
307	T. L. Miller, Beecher. . .	154	204	1.32	Queen	Berkshire
308	T. L. Miller, Beecher.....	154	183	1.25	Dick	Berkshire
309	T. L. Miller, Beecher.....	154	182	1.11	Victoria	Berkshire
310	T. L. Miller, Beecher.....	154	169	1.23	Tom	Berkshire
311	Frank Wilson, Jackson, Mich	173	*211	1.21	Harrison	Berkshire
312	Frank Wilson, Jackson, Mich	173	*211	1.21	Wentworth	Berkshire
Average		152	177	1.16		

*Estimated.

First premium, \$15 00, Dick, exhibited by T. L. Miller, Beecher.
Second premium, \$10 00, Victoria, exhibited by T. L. Miller, Beecher.

REPORT OF COMMITTEE.

The eleven Poland and Berkshire shoats comprising this ring were evenly fattened and well bred showing great aptitude for early maturity. In considering the profit to the feeder and the best quality of meat for the consumer this ring would be entitled to the first consideration.

The large average gain per day ranging from .82 pounds in the Poland-Chinese sow Beauty to 1.32 pounds in the Berkshire sow Queen, and averaging 1.18 pounds per day for the ring is worthy of the consideration of feeders who follow the unprofitable practice of carrying their fattening hogs over the first winter season.

The first premium was awarded a pure-bred Berkshire barrow of fine form and finish, neat, small head, ear and jaw heavy, hams well filled to hock and well proportioned throughout for the greatest profit on the block.

The second premium was awarded a Berkshire sow, Victoria, a very even competitor with the first prize winner excepting heavier bone and rather too much length of leg.

LOT 19—SMALL BREEDS. SUFFOLKS, ESSEX, SHORT-FACED LANCASHIRE, ETC.

Hog two years old or over—5 entries:

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1898.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
313	J. A. Patten, Hennepin....	1,059	.....	.....	Fred Douglas.	Essex.....
314	F. Willson, Jackson, Mich..	786	390	6 49	Bess	Essex.....
315	F. Willson, Jackson, Mich..	780	472	0 62	Diamond.	Essex.....
316	Taylor Bros., Waynesville..	753	520	0 69	Beauty	Essex.....
317	Taylor Bros., Waynesville..	913	412	0 45	Sallie	Essex.....
Average.....		854	448	0.52		

First premium, \$15 00, Sallie, exhibited by Taylor Bros., Waynesville.

REPORT OF COMMITTEE.

Competition was limited to five entries and the animals composing this ring were far from extra in quality.

The sow awarded the first premium when considered by the high standard of excellence which should characterize animals exhibited at a Fat Stock Show, was only medium, being rather deficient where the most meat of the best quality for profit should be found.

There was no animal in the ring deemed worthy of a second premium.

Hog, one and under two years—4 entries:

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1898.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
318	J. A. Patten, Hennepin ..	401	*239	0.59	Sambo	Essex.....
319	Frank Willson, Jackson, Mich	450	410	0-91	Mollie	Suffolk.....
320	Frank Willson, Jackson, Mich	476	*276	0 57	Ravena.....	Essex.....
321	Taylor Bros., Waynesville..	610	352	0 57	Perfection	Essex.....
Average		484	319	0.65		

*Estimated.

First premium, \$15 00, Mollie, exhibited by Frank Willson, Jackson, Mich.

REPORT OF COMMITTEE.

There were only four entries in this ring and no second premium was awarded. The hogs as a lot were deficient in ham, too full and coarse in the shoulder and chops, too heavy in the belly, with bad legs.

The animal awarded the first premium was a fair butchers' hog.

Pig over six months and under one year—4 entries:

No.	Exhibiter.	Age in days..	Weight Nov. 10, 1879	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
322	Scheidt & Davis, Dyer, Ind.	360	342	0.95	Juno	Victoria
323	Scheidt & Davis, Dyer, Ind.	360	398	1.10	Janette	Victoria
324	Frank Willson, Jackson, Mich.	340	275	1.14	Mollie 2d	Suffolk
325	Frank Willson, Jackson, Mich.	340	360	1.05	Mollie 3d	Suffolk
Average		325	345	1.05		

First premium, \$15 00, Mollie 2d, exhibited by Frank Willson, Jackson, Mich.

Second premium, \$10 00, Mollie 3d, exhibited by Frank Willson, Jackson, Mich.

REPORT OF COMMITTEE.

The ring was composed of four good shoats, showing good growth, with fine form, and distribution of meat in the best cuts. The first premium was awarded a pure Suffolk sow, showing the greatest average gain per day, and excelling in ham. Both the prize animals were well hamed, with good loin, well proportioned shoulders and heads.

Pig under six months old—2 entries:

No.	Exhibiter.	Age in days..	Weight Nov. 10, 1879	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
326	Frank Willson, Jackson, Mich.	128	162	1.26	Jackson	Essex
327	Frank Willson, Jackson, Mich.	128	153	1.19	Miss Jackson	Essex
Average		128	157	1.22		

First premium, \$15 00, Jackson, exhibited by Frank Willson, Jackson, Mich.

Second premium, \$10 00, Miss Jackson, exhibited by Frank Willson, Jackson, Mich.

REPORT OF COMMITTEE.

A very fine pair of pigs in every respect, evenly fattened, straight top and bottom lines, heavy hams, well proportioned shoulders, good heads, with great promise for future growth and maturing of porkers having little waste.

The pigs were of the same age, evenly mated, with but little difference in growth. The first premium was awarded to the largest and most thrifty looking pig.

LOT 20—GRADES OR CROSSES.

Hog two years old or over—3 entries:

No.	Exhibiter.	Age in days.	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
328	Fewer Bros., Belvidere.	343	718	0.83	Miss Pineger. . .	Grade Berkshire..
329	Scheidt & Davis, Dyer, Ind.	307	522	0.64	Princess	Grade Berkshire..
330	Oliver, Fell & Miner, Toulon	939	589	0.62	Beauty	Grade Berkshire..
Average		363	609	0.71		

First premium, \$15 00, Beauty, exhibited by Oliver, Fell & Miner, Toulon.

Second premium, \$10 00, Princess, exhibited by Scheidt & Davis, Dyer, Ind.

REPORT OF COMMITTEE.

The three hogs in this ring were good but a little short of what is expected at a show of this character.

The first premium was awarded a grade Berkshire sow, Beauty, an excellent hog in many respects good in ham with well proportioned and smooth shoulder, good lines, top, sides and bottom.

The second premium animal was lacking in the finish and style of the first premium animal as well as the best distribution in the most valuable parts.

Hog one and under two years—4 entries:

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
331	Scheidt & Davis, Dyer, Ind.	629	482	0.76	Grand Duchess ..	Grade Suffolk.....
332	Scheidt & Davis, Dyer, Ind.	381	400	1.05	Duke.....	Grade Suffolk.....
333	Oliver, Fell & Miner, Toulon	574	474	0.82	Pet	Grade Berkshire..
334	Frank Willson, Jackson, Mich	431	473	1.09	Rodney	Grade Suffolk.....
Average		503	457	0.91		

First premium, \$15 00, Pet, exhibited by Oliver, Fell & Miner, Toulon.

Second premium, \$10 00, Duke, exhibited by Scheidt & Davis, Dyer, Ind.

REPORT OF COMMITTEE.

The first premium was awarded a grade Berkshire of fine form and quality, good in ham, back and loin, with neat head and jowl.

The second premium animal, a grade Suffolk of good length and girth and more than ordinary merit, and the lightest hog in the ring.

Pig over six months and under one year—3 entries:

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1879.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
335	Henry Davis, Dyer, Ind....	312	367	1.17	King John.....	Grade Suffolk.....
336	B. J. Orton, Cambridge.....	330	*356	1.08	Black Joe.....	Grade Poland.....
337	Scheidt & Davis, Dyer, Ind.	345	365	1.05	Lady	Grade Victoria.....
Average		329	362	1.10		

* Estimated.

First premium, \$15 00, Lady, exhibited by Scheidt & Davis, Dyer, Ind.

Second premium, \$10 00, King John, exhibited by Henry Davis, Dyer, Ind.

REPORT OF COMMITTEE.

This was a small ring of first class shoats under one year of age and averaging 362 pounds each.

All the animals indicated good feeding qualities, and, notwithstanding the age, and rapid growth, the flesh was solid and ripe for the block.

The first premium was awarded to a grade Victoria sow, having many of the points most highly prized by the butcher, heavy in ham, moderate shoulder, good length and girth, light in head and jowl.

The second premium animal crowded his more successful rival closely, and had no opposition for the second place.

LOT 21—SWEEPSTAKES.

OPEN TO ALL.

Hog two years old or over—10 entries:

No.	Exhibiter.	Age in days...	Weight Nov. 10, 1918.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
273	Oliver, Fell & Miner, Toulon	939	620	0.66	Sallie.....	Poland
275	H. C. Castle, Wilmington...	1,261	690	0.54	Queen of West...	Poland
274	H. C. Castle, Wilmington...	808	637	0.71	Young Champion	Poland
276	T. L. Miller, Beecher...	1,316	675	0.42	High'd Qu'n 5220	Berkshire.....
314	Frank Willson, Jackson, Mich	786	396	0.49	Bess	Essex
338	Herver Bros., Belvidere...	843	718	0.85	Miss Pineger....	Grade Berkshire...
271	B. J. Orton, Cambridge....	1,231	853	0.69	Young Centennial	Poland
272	B. J. Orton, Cambridge....	751	562	0.75	Mrs Tilton	Poland
329	Scheidt & Davis, Dyer, Ind.	807	522	0.64	Princess	Grade Berkshire ..
316	Laylor Bros., Waynesville..	753	520	0.69	Beauty	Essex
Average		978	614	0.62		

Premium, \$25 00, Mrs. Tilton, exhibited by B. J. Orton, Cambridge.

REPORT OF COMMITTEE.

The hogs entered in this ring showed a wide range in form, breeding and condition—the rough stags and old breeding sows, were not considered as competing with animals of superior merit on exhibition.

The competition was close, requiring much deliberation and critical examination.

The sweepstakes premium was awarded a Poland-China sow of much merit, with heavy, well-proportioned quarters, good top and bottom lines, smooth and well haired, with the most profitable distribution of meat, and promising very little waste when prepared for consumption

LOT 21—SWEEPSTAKES.

OPEN TO ALL.

Hog one and under two years—18 entries:

No.	Exhibiter.	Age in days...	Weight Nov 10, 1879	Average gain per day in lbs. since birth...	Name of Animal.	Breed.
277	Geo. Reed, Belvidere...	518	425	0.93	White Chap	Berkshire
278	Geo. Reed, Belvidere.....	518	488	0.94	Lop Ear	Berkshire
318	J. A. Patten, Hennepin.....	401	*239	0.59	Sambo	Essex
280	J. A. Countryman, Rochelle	600	649	1.08	Bob Howard	Poland
281	J. A. Countryman, Rochelle	401	415	1.03	Chieftain, Jr	Poland
282	B. J. Orton, Cambridge.	619	621	1.00	U. S. Grant	Poland
283	John B. Howe, Seneca	720	.....	.....	Sally's Prince	Poland
331	Scheidt & Davis, Dyer, Ind.	629	482	0.76	Grand Duchess..	Grade Suffolk..
333	Oliver, Fell & Miner, Toulon.	574	474	0.62	Pet	Grade Berkshire..
285	H. C. Castle, Wilmington..	530	439	0.82	Negro	Poland
286	H. C. Castle, Wilmington.	633	555	0.87	Jenny Lind 3rd ..	Poland
287	H. C. Castle, Wilmington.	476	413	0.86	Summer Cloud..	Poland
288	H. C. Castle, Wilmington.	443	455	1.09	P. T. Barnum ..	Poland
336	Taylor Bros., Waynesville..	397	381	0.95	Charley	Grade Essex
289	T. L. Miller, Beecher	574	510	0.88	Dolly Varden 545	Berkshire
321	Taylor Bros., Waynesville..	610	353	0.57	Perfection	Essex
290	Frank Willson, Jackson, Mich	483	*443	0.92	Grant	Berkshire
334	Frank Willson, Jackson, Mich	431	473	1.09	Rodney	Grade Suffolk....
Average		530	465	0.87		

* Estimated.

Premium, \$25 00, P. T. Barnum, exhibited by H. C. Castle, Wilmington.

REPORT OF COMMITTEE.

The sweepstakes premium was awarded the pure Poland barrow, P. T. Barnum, an animal of superior, merit, showing, with one exception, the largest average gain per day of any in the ring. This animal, while fully equal to the best in the ring, in form, distribution of meat, etc. would, in the opinion of the committee, sustain less percentage of loss in slaughter than the others. He nearly approached the standard of excellence as a packers' hog.

LOT 21—SWEEPSTAKES.

* OPEN TO ALL.

Pig over six months old and under one year—13 entries:

No.	Exhibiter.	Age in days...	Weight Nov 10, 1879	Average gain per day in lbs. since birth ..	Name of Animal.	Breed.
335	Henry Davis, Dyer, Ind....	312	367	1.17	King John	Grade Suffolk....
292	Hewer Bros., Belvidere ..	203	286	1.40	Hagar 6th	Berkshire
293	J. A. Countryman, Rochelle	231	273	1.18	Sheridan	Poland
294	J. A. Countryman, Rochelle	222	280	1.26	Lennox	Poland
295	B. J. Orton, Cambridge....	330	448	1.35	Bessie Turner....	Poland
296	B. J. Orton, Cambridge ..	330	434	1.31	Beecher	Poland
297	H. C. Castle, Wilmington ..	237	334	1.40	Butcher's Boy ..	Poland
298	H. C. Castle, Wilmington ..	237	296	1.24	Queen Charlotte ..	Poland
299	T. L. Miller, Beecher	335	415	1.23	Empress	Berkshire
300	T. L. Miller, Beecher	277	353	1.27	Eugenia	Berkshire
301	W. W. McClung, Hennepin ..	211	274	1.29	Pocahontas	Poland
323	Scheidt & Davis, Dyer, Ind	360	398	1.10	Janette	Victoria
324	Frank Willson, Jackson, Mich	240	275	1.14	Mollie 2d	Suffolk
Average		271	341	1.25		

Premium, \$25 00, Bessie Turner, exhibited by B. J. Orton, Cambridge.

REPORT OF COMMITTEE.

The animals in this ring were not inferior to any in the show and represented the leading breeds.

The sweepstakes premium was awarded the Poland-China sow Bessie Turner, a smooth, compact, attractive animal of great weight for measurement, with small light head and jaw, well proportioned shoulders, heavy deep ham, small in bone, short in leg and well let down in twist, and worthy of special consideration as a profitable hog for feeder, butcher and consumer.

LOT 21—SWEEPSTAKES.

OPEN TO ALL.

Pig under six months old—11 entries:

No.	Exhibiter.	Age in days....	Weight Nov 10, 1879.....	Average gain per day in lbs. since birth...	Name of Animal.	Breed.
302	Hewer Bros., Belvidere.....	105	120	1.14	Lady Mary.	Berkshire.....
303	Hewer Bros., Belvidere.....	137	149	1.08	Hopewell's Pet.	Berkshire.....
304	J. A. Countryman, Rochelle.	169	155	1.09	Ida Walrath.	Poland.....
305	B. J. Orton, Cambridge.....	170	193	1.13	Beauty	Poland.....
306	H. C. Castle, Wilmington....	134	110	0.82	Poland Beauty	Poland.....
307	T. L. Miller, Beecher.....	154	204	1.32	Queen	Berkshire.....
308	T. L. Miller, Beecher.....	154	193	1.25	Dick	Berkshire.....
309	T. L. Miller, Beecher.....	154	182	1.11	Victoria	Berkshire.....
310	T. L. Miller, Beecher.....	154	189	1.22	Tom	Berkshire.....
312	Frank Wilson, Jackson, Mich	173	*211	1.21	Wentworth	Berkshire.....
326	Frank Wilson, Jackson, Mich	123	162	1.26	Jackson	Essex.....
Average.....		148	172	1.16		

*Estimated.

Premium, \$25 00, Jackson, exhibited by Frank Willson, Jackson, Mich.

REPORT OF COMMITTEE.

This was a very attractive ring of youngsters, all showing good growth for age, skillful feeding and good breeding. The sweepstakes premium was awarded an Essex barrow, showing, with one exception, the largest average gain per day since birth, of any of his competitors. This pig had neat head, small jaw, straight back, heavy ham, with shoulders in good proportion to body.

LOT 22—GRAND SWEEPSTAKES.

OPEN TO ALL.

Heaviest Hog—9 entries:

No.	Exhibiter.	Age in days....	Weight Nov 10, 1879.....	Average gain per day in lbs. since birth...	Name of Animal.	Breed.
328	Hewer Bros., Belvidere	843	718	0.85	Miss Pineger.	Grade Berkshire ..
292	Hewer Bros., Belvidere	263	286	1.40	Hagar 6th	Berkshire ..
250	J. A. Countryman, Rochelle	300	648	1.08	Bob Howard	Poland ..
271	B. J. Orton, Cambridge.....	1,231	853	0.69	Young Centennial	Poland ..
233	John B. Howe, Seneca.....	720	.....	.....	Sally's Prince	Poland ..
273	Oliver, Fell & Miner, Toulon.	939	620	0.66	Sallie.	Poland ..
274	H. C. Castle, Wilmington ..	899	637	0.71	Young Champion	Poland ..
275	H. C. Castle, Wilmington....	1,261	690	0.54	Queen of West	Poland ..
276	T. L. Miller, Beecher.....	1,516	635	0.42	High dQueen 5226	Berkshire ..
Average		912	636	0.69		

Premium, \$50 00, Young Centennial, exhibited by B. J. Orton, Cambridge.

REPORT OF COMMITTEE.

This ring was composed of nine of the heaviest animals in the show. The test was decided by the scales.

The animals, considering the heavy weights, were of superior merit and showed great skill in feed and handling; two-thirds of the animals were sows and had been used for breeding purposes.

The principal object in offering the premium seemed to be to make a show of large animals and in this respect the ring was a success, outside of the returns from breeding purposes, the feeding of animals to such an age should not be encouraged.

LOT 23—CAR LOAD.

Car load Hogs—thirty head—1 entry:

No.	Exhibiter.	Age in days....	Weight Nov. 10, 1893.....	Average gain per day in lbs. since birth....	Name of Animal.	Breed.
1	Oliver, Fell & Miner, Toulon
2	
3	
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25	
26	
27	
28	
29	
30	
Average.....		488½		

First premium, \$50 00, Oliver, Fell & Miner, Toulon.

REPORT OF COMMITTEE.

There was but one car load of hogs entered for competition, and a better or more even lot of hogs is seldom seen.

The hogs were large and smooth, of uniform size and breeding, and reflected great credit upon the breeder and feeder.

CONCLUSION.

The committee in the swine department in making awards considered that hogs like other domesticated animals are grown for their meat for human food, and must finally come to the block and the scales for final test.

The judging was entirely from the butcher's standpoint, and the prizes awarded the animal giving the most and the best carcass to live weight, the opinion prevailing that the hog returning the least proportionate waste at slaughter is the animal that returns the most money.

The committee favorably considered the hog with small head, thin small ears, light owl, straight, broad, well-filled back, well rounded, smooth barrel well mounted on limbs lean, short and reasonably small, heavy hams, shoulders lighter in proportion to hind quarters, meat solid and ripened on corn, skin smooth and pliable, good bottom line and no flabbiness or paunchiness.

RECAPITULATION.

CLASS A—CATTLE.

LOT 1—SHORTHORNS.

Best steer four years old or over—5 entries:

First premium, Wing & Thompson, Bement	\$25 00
Second premium, Wing & Thompson, Bement.....	15 00

Best steer three and under four years—2 entries:

First premium, J. H. Graves, Chilesburg, Ky.	25 00
Second premium, John B. Sherman, Chicago	15 00

Best steer two and under three years—4 entries:

First premium, J. N. Brown's Sons, Berlin.....	25 00
Second premium, J. N. Brown's Sons, Berlin ...	15 00

Best steer one and under two years—6 entries:

First premium, J. N. Brown's Sons, Berlin.....	25 00
Second premium, J. N. Brown's Sons, Berlin.....	15 00

Best cow three years old or over—8 entries:

First premium, R. K. & A. S. Brownlie, Long Grove, Iowa.....	25 00
Second premium, W. F. Gordon, Liberty, Mo.....	15 00

Awarding Committee.—J. T. Calders, Cedar Rapids, Iowa; Geo. Dryfus, Lafayette, Ind.; Wm. Stocking, Polo.

LOT 2—HEREFORD.

Best steer four years old or over—4 entries.

First premium, T. L. Miller, Beecher ..	\$25 00
Second premium, John B. Sherman, Chicago.....	15 00

Best steer three and under four years—2 entries:

First premium, T. L. Miller, Beecher.....	25 00
Second premium, Thos. Clark, Beecher.....	15 00

Best steer two and under three years—1 entry:

First premium, T. L. Miller, Beecher.....	25 00
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Best steer one and under two years—3 entries:

First premium, T. L. Miller, Beecher.....	25 00
Second premium, T. L. Miller, Beechr.....	15 00

Best cow three years old or over—2 entries:

First premium, T. L. Miller, Beecher... ..	25 00
Second premium, Thos. Clark, Beecher.....	15 00

Awarding Committee.—A. Knornschild, Oregon; John Webb, Lexington, Ky.; William King, Naperville.

LOT 3—DEVONS.

Best Steer, three and under four years—1 entry

First premium, L. F. Ross, Avon..... \$25 00

Best Steer, one and under two years—1 entry:

First premium, L. F. Ross, Avon..... \$25 00

Best Cow, three years old or over—2 entries:

First premium, L. F. Ross, Avon..... \$25 00

Second premium, Bruno Gansel, Hyde Park 15 00

Awarding Committee—H. A. Henneman, Belleville; John Webb, Lexington, Ky.; Wm. King, Naperville.

LOT 5—GRADES OR CROSSES.

Best Steer four years old or over—18 entries:

First premium, T. L. Miller, Beecher \$25 00

Second premium, J. D. Gillett, Elkhart..... 15 00

Best Steer three and under four years—29 entries:

First premium, T. W. Hunt, Ashton 25 00

Second premium, L. F. Ross, Avon 15 00

Best Steer two and under three years—30 entries:

First premium, T. W. Hunt, Ashton 25 00

Second premium, T. W. Hunt, Ashton..... 15 00

Best Steer one and under two years:

First premium, J. D. Gillett, Elkhart 25 00

Second premium, J. D. Gillett, Elkhart..... 15 00

Awarding Committee—Wm. King, John Webb, Lexington, Ky.; H. A. Heineman.

LOT 6—SWEEPSTAKES RINGS.

Best Steer four years old or over—19 entries:

Premium, J. D. Gillett, Elkhart..... \$50 00

Best Steer three years old and under four years—20 entries:

Premium, J. H. Graves, Chilesburg, Ky. 50 00

Best Steer two years old and under three years—11 entries:

Premium, T. W. Hunt, Ashton 50 00

Best Steer one and under two years—14 entries:

Premium, J. D. Gillett, Elkhart 50 00

Best Cow three years old or over—10 entries:

Premium, R. K. & A. S. Brownlie, Long Grove, Iowa..... 50 00

Awarding Committee—John Ruegamer, E. Kuhn, A. Knoreschild

LOT 7—GRAND SWEEPSTAKES.

Best Steer or Cow in the Show—22 entries:

Premium, J. H. Graves, Chilesburg, Ky..... \$100 00

LOT 8—CAR LOADS.

Best Car Load Cattle, four or over:

First premium, J. D. Gillett, Elkhart	\$200 00
Second premium, J. B. Sherman, Chicago	100 00

Best Car Load Cattle three and under four years:

First premium, J. D. Gillett, Elkhart	200 00
Second premium, J. D. Gillett, Elkhart.. ..	100 00

Best Car Load Cattle two and under three years:

First premium, J. D. Gillett, Elkhart	200 00
Second premium, Amos F. Moore, Polo.....	100 00

Best Car Load Cattle one and under two years:

First premium, J. D. Gillett, Elkhart.....	200 00
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LOT 10—HEAVIEST FAT STEER.

First premium, John B. Sherman, Chicago	75 00
Second premium, Geo. Gray, Rushville, Ind	50 00
Third premium, J. H. Graves, Chilesburg, Ky.....	25 00

CLASS C—SHEEP.

LONG WOOLS.

D. W. VITTUM, JR., Superintendent.

Best Wether two years old or over:

First premium, Geo. Hood, Guelph, Canada	\$15 00
Second Premium, T. L. Miller, Beecher.....	10 00

Best Wether one and under two years:

First premium, Geo. Hood, Guelph, Canada.....	15 00
Second premium, J. A. Browns Sons, Decatur	10 00

Best Wether under one year:

Second premium, Geo. Hood, Guelph, Canada	10 00
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Best Ewe two years old or over:

First premium, Geo. Hood, Guelph, Canada.....	15 00
Second premium, Wm. Moffatt & Bro., Paw Paw.....	10 00

Best Ewe one one under two years:

First premium, Abner Strawn, Ottawa	15 00
Second premium, Abner Strawn, Ottawa.....	10 00

Best Ewe under one year:

First premium, Frank Willson, Jackson, Mich.....	15 00
Second premium, Geo. Hood, Guelph, Canada	10 00

Awarding Committee—J. T. Calder, Cedar Rapids, Iowa; D. S. Irons, St. Louis, Mo.; Joseph Kuschke, Canton.

LOT 13—MIDDLE WOOLS.

Best Wether two years old or over:

First premium, Geo. Pickrell, Wheatfield.....	\$15 00
Second premium, Geo. Carey, Rochelle	10 00

Best Wether one and under two years:

First premium, Geo. Pickrell, Wheatfield	15 00
Second premium, Geo. Pickrell, Wheatfield.....	10 00

Best Wether under one year:

First premium, Geo. Pickrell, Wheatfield	15 00
Second premium, Geo. Pickrell, Wheatfield	10 00

Best Ewe two years old or over:

First premium, J. A. Brown & Son, Decatur	15 00
Second premium, Geo. Carey, Rochelle	10 00

Best Ewe one and under two years:

First premium, James Cotton, Rockford	15 00
Second premium, Geo. Hood, Guelph, Ca.	10 00

Best Ewe under one year:

First premium, Geo. Hood, Guelph, Ca.	15 00
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Committee.—Joseph Kruschke, Canton; J. I. Calder, Cedar Rapids, Iowa; Wm. King, Naperville.

LOT 14—GRADES AND CROSSES.

Best Wether two years old or over:

First premium, James Cotton, Rockford	\$15 00
Second premium, Geo. Pickrell, Wheatfield	10 00

Best Wether one and under two years:

First premium, T. L. Miller, Beecher	15 00
Second premium, Geo. Pickrell, Wheatfield	10 00

Best Wether under one year:

First premium, Geo. Hood, Guelph, Ca.	15 00
Second premium, Geo. Carey, Rochelle	10 00

Best Ewe two years or over:

First premium, Geo. Hood, Guelph, Ca.	15 00
Second premium, Geo. Carey, Rochelle	10 00

Best Ewe one and under two years:

First premium, Geo. Hood, Guelph, Ca.	15 00
Second premium, Geo. Carey, Rochelle	10 00

Best Ewe under one year:

First premium, Geo. Carey, Rochelle	15 00
Second premium, Geo. Hood, Guelph, Ca.	10 00

LOT 15—SWEEPSTAKES.

OPEN TO ALL.

Best Wether two years old or over:

Premium, T. L. Miller, Beecher	\$25 00
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Best Wether, one and under two years:

Premium, Geo. Hood, Guelph, Canada	25 00
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Best Wether under one year:

Premium, Geo. Hood, Guelph, Canada	25 00
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Best Ewe two years old or over:

Premium, J. A. Brown & Son, Decatur	25 00
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Best Ewe one and under two years:

Premium, Abner Strawn, Ottawa	25 00
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Best Ewe under one year:

Premium, Frank Willson, Jackson, Mich.	25 00
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LOT 16—GRAND SWEEPSTAKES.

OPEN TO ALL.

Best Wether any age:

Premium, Frank Willson, Jackson, Mich.....	\$30 00
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Best Ewe any age:

Premium, Geo. Hood, Guelph, Canada.....	30 00
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LOT 17—CAR LOADS.

Best Car Load Fat Sheep not less than thirty head:

First premium, Geo. Pickrell, Wheatfield.....	60 00
Second premium, Abner Strawn, Ottawa.....	30 00

CLASS D—SWINE.

WM. VOORHIES, JR., Superintendent.

LOT 18—LARGE BREEDS.

EITHER SEX.

Best Hog two years old or over:

First premium, B. J. Orton, Cambridge.....	\$15 00
Second premium, Oliver, Fell & Miner, Toulon...	10 00

Best Hog one and under two years:

First premium, J. A. Countryman, Rochelle.....	15 00
Second premium, H. C. Castle, Wilmington...	10 00

Best Pig six months and under one year:

First premium, H. C. Castle, Wilmington.	15 00
Second premium, B. J. Orton, Cambridge.....	10 00

Best Pig under six months:

First premium, T. L. Miller, Beecher ..	15 00
Second premium, T. L. Miller, Beecher	10 00

LOT 19—SMALL BREEDS.

EITHER SEX.

Best Hog two years old or over:

First premium, Taylor Bros., Waynesville.....	\$15 00
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Best Hog one and under two years:

First premium, Frank Willson, Jackson, Mich ..	15 00
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Best Pig six months old and under one year:

First premium, Frank Willson, Jackson, Mich ..	15 00
Second premium, Frank Willson, Jackson, Mich.....	10 00

Best Pig under six months old:

First premium, Frank Willson, Jackson, Mich.....	15 00
Second premium, Frank Willson, Jackson, Mich....	10 00

LOT 20—GRADES OR CROSSES.

EITHER SEX.

Best Hog two years old or over:

First premium, Oliver, Fell & Miner, Toulon	\$15 00
Second premium, Scheidt & Davis, Dyer, Ind.	10 00

Best Hog one and under two years:

First premium, Oliver, Fell & Miner, Toulon.....	15 00
Second premium, Scheidt & Davis, Dyer, Ind ..	10 00

Best Pig six months old and under one year:

First premium, Scheidt & Davis, Dyer, Ind	15 00
Second premium, Henry Davis, Dyer, Ind.....	10 00

LOT 21--SWEEPSTAKES.

EITHER SEX—OPEN TO ALL.

Best Hog two years old or over:

Premium, B. J. Orton, Cambridge.....	\$25 00
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Best Hog one and under two years:

Premium H. C. Castle, Wilmington.....	25 00
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Best Pig six months and under one year:

Premium, B. J. Orton, Cambridge.....	25 00
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Best Pig under six months old:

Premium, Frank Willson, Jackson, Mich.	25 00
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LOT 22—GRAND SWEEPSTAKES.

OPEN TO ALL.

Heaviest Hog:

Premium, B. J. Orton, Cambridge	\$50 00
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LOT 23—CAR LOAD.

Best car-load hogs not less than thirty head:

First premium, Oliver, Fell & Miner, Toulon.....	\$50 00
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CLASS E—POULTRY.

H. D. EMERY, Superintendent.

LOT 24—FAT POULTRY—(Alive.)

Best Turkey Cock:

Premium, Bush & Blodgett, Downer's Grove	\$5 00
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Best Turkey Hen:

Premium, Bush & Blodgett, Downer's Grove.	5 00
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Best Gander:

Premium, Bush & Blodgett, Downer's Grove.....	5 00
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Best Gouse:

Premium, Bush & Blodgett, Downer's Grove.....	5 00
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Best Hen:

Premium, Mrs. D. G. Brown, Hyde Park..... 5 00

Best Drake:

Premium, Scheidt & Davis, Dyer, Ind..... 5 00

Best Duck:

Premium, Scheidt & Davis, Dyer, Ind..... 5 00

Best Display Live Fat Poultry:

Premium, Bush & Blodgett, Downer's Grove..... 25 00

CLASS G—DAIRY PRODUCTS.

LOT 27—FACTORY CHEESE—15 entries:

For each exhibit of three or more boxes of cheese, aggregating not less than 150 pounds, made at any time, and scoring at least 42 points on a basis of 50 as perfection—a *pro rata* share of \$150 00.

PREMIUMS AWARDED TO

A. E. Woodhull, Wheeler, Ind.....	42 points.	\$24.51
Mather Bros., Sheboygan, Wis.....	44 "	25.69
P. Moran & Co., Factory 4, Wheeler, Ind	44 "	25.69
G. W. Weeden, Sheboygan, Wis.....	42 "	24.51
John Castner, Sheboygan, Wis	42 "	24.51
J. B. Rose, DeWitt, Iowa.....	43 "	25.09

LOT 29—SWEEPSTAKES—CHEESE.

For best exhibit of three or more boxes of cheese, aggregating not less than 150 pounds, made at any time by factory or dairy—7 entries:

Premium, S. Reinking, Howard's Grove, Wis.....\$25 00

LOT 30—CREAMEY BUTTER—16 entries:

For each exhibit of two or more tubs of butter, aggregating not less than 100 pounds, made at any time—a *pro rata* share of \$150 00.

PREMIUMS AWARDED TO

Pleasant Grove Butter and Cheese Co., Marengo.....	45 points.	\$28 70
Brotzman & Rogers, Riley.....	46 points.	30 00
Bates Butter and Cheese Co., Riley.....	50 points.	32 00
E. P. Vail, Marengo.....	46 points.	30 00
C. B. Lambert, Wauconda.....	45 points.	28 70

LOT 31—DAIRY BUTTER—12 entries:

For each exhibit of two or more tubs of Butter, aggregating not less than 50 pounds, made at any time, a *pro rata* share of \$75 00.

PREMIUMS AWARDED TO

N. C. Hill & Son, Ottumwa, Iowa....	50 points.	\$25 51
Patterson Pringle, Marengo.....	48 points.	24 49
P. H. Burchard, Grant Park.....	49 points.	25 00

LOT 32—SWEEPSTAKES BUTTER—19 entries:

For best exhibit of two or more tubs of Butter, aggregating not less than 50 pounds, made at any time by factory or individual.

PREMIUMS AWARDED TO

N. C. Hill & Son, Ottumwa, Iowa.....	50 points.....	\$12 50
Bates Butter and Cheese Co., Riley.....	50 points.....	12 50

LOT 33—GRAND SWEEPSTAKES—BUTTER AND CHEESE—4 entries:

For best display of dairy products, butter and cheese:

Premium, C. B. Lambert, Wauconda	Diploma and \$100 00
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SECRETARY'S REPORT.

The attention of feeders of live stock is invited to the following figures compiled from the reports of the Fat Stock Shows for the past two years

The facts demonstrated by these statistics will surprise the great majority of the prominent feeders of live stock who have been content with results that will bear no comparison with what has been accomplished by some of the exhibitors at the Fat Stock Shows.

It is hoped that a large number of men engaged in feeding butchers stock for market will take the time to critically examine the following figures and be thus influenced to procure the best of the improved breeds of live stock and by adopting the most approved methods of feeding and handling stock be enabled to successfully compete in the leading markets with the best breeders and feeders

The better meat breeds are capable of great improvement in the rapid production of meat, and when the aid of the science of chemistry is more intimately understood and brought into requisition by feeders, in determining the right proportions of the most nutritious food for rapid assimilation and the best quality of meat, we may expect to see the cattle, hog and sheep machines, for manufacturing meat operated with great certainty of rapid uniform and profitable results.

In order to enable the public to critically examine and compare the different rings of stock exhibited the past two years the following tables have been prepared from the official reports of committees.

The pure breeds and their crosses will be reported upon in the order they appear in the classification of premiums. The averages of the rings of several ages and breeds for the two years are first given, followed by table giving age, weight and gain of the first premium animals exhibited therein each year.

CLASS A—CATTLE.

SHORTHORNS.

Shorthorn Steer four years old or over:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....	2	1,891	2,282	1.19
1879.....	5	1,861	2,358	1.28

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878.....	1,880	2,085	1.11
1879.....	1,878	2,240	1.42

Shorthorn Steer three and under four years:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth
1878.	2	1,250	2,087	1 67
1879.	2	1,326	2,069	1 53

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878.	1,280	2,115	1 65
1879.	1,335	2,000	1 54

Shorthorn Steer two and under three years:

Year.	Entries.	Average age in day.	Average weight.	Average gain per day in lbs. since birth
1878.	5	934	1,621	1 73
1879.	3	871	1,624	1 86

FIRST PREMIUM ANIMALS

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878.	969	1,705	1 76
1879.	845	1,636	1 93

Shorthorn Steers, one and under two years :

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.	3	672	1,385	2 06
1879.	5	638	1,267	2 00

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth.
1878.	650	1,480	2 28
1879.	701	1,316	1 87

Shorthorn Cows, three years old or over:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.	6	2,937	1,722	0 72
1879.	8	2,364	1,786	0 81

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs.since birth.
1878	1,721	2,075	1 20
1879.....	2,035	1,769	0.86

HEREFORD.

Steer, four years old or over:

Year.	Entries.	Average age in days	Average weight.	Average gain per day in lbs.since birth.
1878	1	2,692	2,010	0 75
1879.....	4	1,639	1,994	1.28

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs.since birth.
1878	2,692	2,010	0.75
1879	1,677	2,043	1.22

Hereford Steer three and under four years:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs.since birth.
1878	3	1,346	1,735	1.36
1879.....	2	1,389	1,973	1.41

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs.since birth.
1878	1,336	1,705	1 20
1879.....	1,359	1,968	1.44

Hereford Steers two and under three years:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs.since birth.
1878	1	1,080	1,470	1 36
1879.....	1	939	1,474	1.57

FIRST PREMIUM ANIMALS

Year.	Age in days.	Weight.	Average gain per day in lbs.since birth.
1878	1,080	1,470	1.36
1879	939	1,474	1.57

Hereford Steers, one and under two years old:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....				
1879.....	3	577	1,230	2.15

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth.
1878.....			
1879.....	712	1,397	1.96

Hereford Cow, three years old or over.

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....	3	2,179	1,630	0.73
1879.....	2	3,663	1,615	0.56

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth.
1878.....	1,677	1,595	0.95
1879.....	2,018	1,730	0.85

DEVONS.

Steers, four years or over.

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....				
1879.....	2	1,655	1,757	1.06

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth.
1878.....	1,658	1,645	0.99
1879.....			

Devon Steer, three and under four years.

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....	2	1,319.	1,565	1.18
1879.....	1	1,335	1,509	1.12

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth.
1878.....	1,371	1,655	1.21
1879.....	1,335	1,509	1.12

Devon Steer, two and under three years.

NO ENTRIES—1878 and 1879.

Devon Steer one and under two years:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth
1878.....				
1879.....	1	483	844	1.74

FIRST PREMIUM ANIMAL.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878.....			
1879.....	483	844	1.74

Devon Cow three years old or over:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth
1878.....	1	1,905	1,200	0.63
1879.....	2	2,475	1,115	0.51

FIRST PREMIUM ANIMALS.

Year.	Age in days.	Weight.	Average gain per day in lbs. since birth
*1878.....			
1879.....	3,490	1,264	0.36

*No premium awarded in 1878.

GRADES AND CROSSES.

Steers four years and over:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth
1878	13	1,815	2,491	1.37
1879	17	1,923	2,373	1.25

1878—11 Grade Shorthorns; 1 Grade Hereford.

1879—15 Grade Shorthorns; 1 Grade Devon; 1 Grade Hereford.

FIRST PREMIUM ANIMALS.

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878	Grade Shorthorn.....	2,058	2,480	1.20
1879	Grade Hereford	1,780	2,131	1.19

Grades and Crosses—Steer three and under four years

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth
1878	10	1,296	2,032	1.56
1879	29	1,262	1,946	1.18

1878—1 Grade Hereford, 9 Grade Shorthorns.

1879—2 Grade Devons, 7 Grade Herefords, 20 Grade Shorthorns.

FIRST PREMIUM ANIMALS.

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878	Grade Shorthorn.....	1,328	2,185	1.65
1879	Grade Shorthorn.....	1,294	1,986	1.53

Grades and Crosses—Steers two and under three years:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth
1878	13	935	1,651	1.73
1879	31	954	1,710	1.77

1878—2 Grade Herefords; 11 Grade Shorthorns.

1879—31 Grade Shorthorns.

FIRST PREMIUM ANIMALS.

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878	Grade Shorthorn...	962	1,885	1.96
1879	Grade Shorthorn.....	932	1,632	1.61

Grades and Crosses—Steer one and under two years:

Year.	Entries.	Average age in days.	Average Weight.	Average gain per day in lbs. since birth
1878.....	2	678	1,470	2.16
1879.....	14	538	1,807	2.42

1878—2 Grade Shorthorns.
1879—14 Grade Shorthorns.

FIRST PREMIUM ANIMALS.

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878	Grade Shorthorn.....	656	1,420	2.15
1879.....	Grade Shorthorn.....	605	1,198	1.97

SWEEPSTAKES—OPEN TO ALL.

Steers four years old or over:

Year,	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878	14	1,896	2,405	1.28
1879.....	19	1,782	2,330	1.31

1878—2 Shorthorns; 1 Hereford; 1 Devon; 9 grade Shorthorns; 1 grade Hereford.
1879—5 Shorthorns; 2 Herefords; 11 grade Shorthorns, 1 grade Hereford.

SWEEPSTAKES ANIMALS.

Year.	Breed.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....	Shorthorn	1,902	2,440	1.28
1879.....	Grade Shorthorn.	1,573	2,118	1.34

Sweepstakes (open to all) Steers, three and under four years:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....	8	1,229	2,031	1.55
1879.....	19	1,281	1,963	1.51

1878—1 grade Hereford; 7 grade Shorthorns.

1879—2 Shorthorns; 2 Herefords; 10 grade Shorthorns; 3 grade Herefords; 2 grade Devons.

SWEEPSTAKES ANIMALS.

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth.
1878	Grade Shorthorn	1,328	2,183	1.65
1879	Shorthorn.....	1,335	2,060	1.54

Sweepstakes (open to all) Steer two and under three years:

Year.	Entries.	Average age in days.	Average weight.	Average gain per day in lbs.since birth.
1878.....	13	935	1,651	1.73
1879.....	21	953	1,705	1.78

1878—5 Shorthorns; 2 grade Herefords; 6 grade Shorthorns.
1879—3 Shorthorns; 1 Hereford; 17 grade Shorthorns.

SWEEPSTAKES ANIMALS.

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs.since birth.
1878.....	Grade Shorthorn.....	962	1,625	1.69
1879.....	Grade Shorthorn.....	932	1,532	1.64

Sweepstakes (open to all) Steers, one and under two years:

Year.	Entries.	Average age in days.	Average weight	Average gain per day in lbs.since birth.
1878.....	5	674	1,419	2.10
1879.....	14	572	1,276	2.25

1878—3 Shorthorns; 2 grade Shorthorns.
1879—4 Shorthorns; 2 Herefords; 7 grade Shorthorns; 1 grade Hereford.

SWEEPSTAKES ANIMALS.

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs.since birth.
1878.....	Shorthorn.....	650	1,480	2.28
1879.....	Grade Shorthorn.....	544	1,300	2.39

Sweepstakes Cows, three years old or over:

Year.	Entries.	Average age in days.	Average. weight.	Average gain per day in lbs.since birth.
1878.....	6	2,282	1,720	0.85
1879.....	10	2,442	1,728	0.77

1878—4 Shorthorns; 2 Herefords.
1879—8 Shorthorns; 1 Hereford; 1 Devon.

SWEEPSTAKES ANIMALS.

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs.since birth.
1878.....	Hereford.....	1,677	1,595	0.93
1879.....	Shorthorn.....	2,035	1,769	0.86

GRAND SWEEPSTAKES—ANIMALS.

Year.	Breed.	Age in days	Weight.	Average gain per day in lbs. since birth.
1878.....	Grade Shorthorn.....	1,328	2,185	1.65
1879.....	Shorthorn.....	1,335	2,080	1.54

Car Loads four years old or over:

Year.	No. Steers.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1 1878	10	1,534	2,245	1.48
2 1879	8	2,155	2,389	1.13
3 1879	6	1,599	2,147	1.34
Average		1,764	2,264	1.32

1878—First car, 6 Shorthorns and 4 grade Shorthorns,
 1879—Second car, 2 Shorthorns and 4 grade Shorthorns.
 1879—Third car, 6 grade Shorthorns.

FIRST PREMIUM CAR LOAD.

Year.	No. Steers.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....	10	1,539	2,245	1.48
1879.....	6	1,599	2,147	1.34

Car Loads three and under four years:

Year.	No. Steers.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1 1878	10	1,394	2,047	1.48
2 1879	8	1,247	2,017	1.55
3 1879	8	1,261	2,030	1.59
4 1879	8	1,280	1,888	1.45
Average		1,296	1,990	1.52

No. 1, 10 grade Shorthorns; No. 2, 8 grade Shorthorns; No. 3, 8 grade Shorthorns; No. 4 1 Hereford, 7 grade Herefords.

First Premium Car-loads, three and under four years:

Year.	No. Steers.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878.....	10	1,394	2,047	1.48
1879.....	8	1,247	2,017	1.55

Car-loads, two and under three years:

Year.	No. Steers.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1 1878	10	1,025	1,667	1.63
2 1878	10	1,102	1,759	1.60
3 1878	10	965	1,818	1.87
4 1879	10	918	1,695	1.77
5 1879	10	945	1,643	1.74
Average. ....	.....	991	1,717	1.72

First car, 10 grade Shorthorns; second car, 10 grade Shorthorns; third car, 10 grade Shorthorns; fourth car, 10 grade Shorthorns; fifth car, 1 Shorthorn and 9 grade Shorthorns.

PREMIUM CAR-LOADS.

Year.	No. Steers.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878	10	1,025	1,667	1.63
1879	10	965	1,818	1.87

Car-loads, one and under two years:

Year.	No. Steers.	Average age in days.	Average weight.	Average gain per day in lbs. since birth.
1878 .....	.....	.....	.....	.....
1879	12	541	1,813	2.42

1879—12 head grade Shorthorn steers.

Heaviest Fat Steer:

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878	Grade Shorthorn.	2,162	3,155	1.45
1879	Grade Shorthorn....	2,408	2,840	1.18

*EARLY MATURITY.**STEERS SHOWING MOST RAPID GROWTH.**Steers four years old or over:*

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878	Grade Shorthorn.....	1,663	2,605	1.56
1879	Grade Shorthorn. ..	1,613	2,820	1.74

Steers three and under four years:

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth
1878	Grade Shorthorn.....	1,298	2,305	1.70
1879	Grade Shorthorn.....	1,269	2,307	1.81

Steers two and under three years:

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth.
1878.....	Shorthorn.....	783	1,585	2.02
1879.....	Grade Shorthorn....	977	2,081	2.12

Steers one and under two years:

Year.	Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth.
1878.....	Shorthorn.....	650	1,480	2.28
1879.....	Grade Shorthorn....	513	1,373	2.67

Comparison first prize animals of the several breeds of cattle, 1878—Steer four years old or over:

Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth.
Shorthorn.....	1,578	2,240	1.42
Hereford.....	1,677	2,043	1.22
Devon.....	1,780	2,134	1.19
Grades or Crosses.....			

Steers three and under four years:

Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth.
Shorthorn.....	1,335	2,060	1.54
Hereford.....	1,359	1,981	1.44
Devon.....	1,385	1,509	1.12
Grades or Crosses.....	1,294	1,986	1.53

Steers two and under three years:

Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth.
Shorthorn.....	845	1,636	1.93
Hereford.....	939	1,474	1.57
Devon.....	982	1,532	1.64
Grades or Crosses.....			

Steer one and under two years:

Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth.
Shorthorn.....	701	1,316	1.87
Hereford.....	712	1,397	1.96
Devon.....	483	844	1.74
Grades or Crosses.....	605	1,196	1.97

Cows three years old or over:

Breed.	Age in days.	Weight.	Average gain per day in lbs. since birth-
Shorthorn	2,035	1,769	0.86
Hereford	2,018	1,730	0.85
Devon	3,490	1,264	0.36
Grades or Crosses			

Average weights of the rings of the various breeds of cattle and their crosses, exhibited at the 1878 and 1879 Fat Stock Shows:

Breeds.	Steers 4 yrs. old or over.	Steers 3 yrs. old and under 4 yrs.	Steers 2 yrs. old and under 3 yrs.	Steers 1 year old and under 2 yrs.	Cow 3 years old or over.
Shorthorn, 1878.....	2,262	2,087	1,621	1,385	1,723
Shorthorn, 1879	2,358	2,039	1,624	1,267	1,786
Average.....	2,310	2,063	1,622	1,326	1,754
Hereford, 1878.....	2,010	1,735	1,470	.....	1,630
Hereford, 1879.....	1,994	1,973	1,474	1,230	1,615
Average.....	2,002	1,854	1,472	1,230	1,622
Devon, 1878	1,757	1,565	.....	.....	1,200
Devon, 1879 .....	.....	1,509	.....	844	1,115
Average.	1,757	1,537	.....	844	1,157
Grades or crosses, 1878...	2,491	2,032	1,650	1,470	.....
Grades or crosses, 1879. .	2,373	1,946	1,710	1,307	.....
Average	2,432	1,989	1,680	1,388	.....

Consolidated average weights of the rings of the various breeds of cattle and their crosses exhibited in 1878 and 1879.

Breed.	Steer 4 yrs. old or over.	Steer 3 years old and under 4 yrs.	Steer 2 years old and under 3 yrs.	Steer 1 year old and under 2 yrs.	Cow 3 years old or over.
Shorthorn	2,310	2,063	1,622	1,326	1,754
Herefords	2,002	1,854	1,472	1,230	1,622
Devons	1,757	1,537	.....	844	1,157
Grades and Crosses.....	2,432	1,989	1,680	1,388	.....

STANDARD.

There are numerous instances on record of animals that have made remarkably large gains under very favorable circumstances which could hardly be expected of animals receiving good ordinary care or such treatment as is given the majority of the stock competing from year to year at the Fat Stock Shows.

The great majority of feeders neglect the counsels of their wisest advisers, the scales, and in too many instances the lack of success may be attributed to the want of information on the part of the feeder and grazer of the gain or loss sustained each month in his flocks and herds.

The number of men who regularly weigh their stock at short and stated intervals, is increasing from year to year, and such parties succeed financially by changing the range before the growth of stock has been checked by short feed, or increase the grain feed at the critical period to the end that the most rapid and profitable growth may be realized until the stock is ready for market.

There is comparatively a limited number of feeders who have established for themselves a standard of excellence to be attained in the feeding and early maturity of their stock.

The experienced feeder who has made it a practice to record, for reference, the weights of stock for a term of years, is not satisfied unless there is a marked improvement made each season and this careful and constant attention leads to more care in breeding or selection, as well as feeding and ensures profitable returns.

The following table has been compiled from the reports of the 1878 and 1879 Fat Stock Shows and includes animals exhibited and nearest the ages named.

It is believed that with very few exceptions our best breeders and feeders would find it profitable to study this table and emulate the best result reported and adopt it as a standard until improved upon by experience of themselves or others.

The increase in weight from month to month as noted in the table is not gradual, or uniform, commencing with the youngest as each age up to four years represents a different animal as well as ownership in many cases, and with so many animals of the various breeds and their crosses dropped at all seasons of the year without the same feed and care, it could not be expected that each steer would make the same proportionate growth; neither does this unavoidable and peculiar condition detract from the value of the table for all practical purposes.

Month—30 days	No. of days ..	Age of steer in days nearest to time named...	Breed.	Weight	Average gain per day in lbs.
17	510	513	Grade Shorthorn.....	1,300	2.53
18	540	544	Grade Shorthorn.....	1,401	2.57
19	570	564	Grade Shorthorn.....	1,386	2.46
20	600	605	Grade Shorthorn.....	1,196	1.97
21	630	.....	.....	.....	.....
22	660	650	Shorthorn.....	1,480	2.28
23	690	701	Grade Shorthorn...	1,520	2.17
24	720	712	Hereford.....	1,397	1.96
25	750	.....	.....	.....	.....
26	780	783	Shorthorn.....	1,585	2.02
27	810	814	Shorthorn.....	1,449	1.78
28	840	845	Shorthorn.....	1,636	1.93
29	870	873	Grade Shorthorn...	1,685	1.93
30	900	909	Grade Shorthorn.....	1,685	1.86
31	930	939	Grade Shorthorn.....	1,869	1.99
32	960	962	Grade Shorthorn.....	1,885	1.98
33	990	977	Grade Shorthorn.....	2,081	2.12
34	1,020	1,023	Grade Shorthorn.....	1,685	1.64
35	1,050	1,060	Grade Shorthorn.....	1,742	1.64
36	1,080	1,084	Shorthorn.....	1,450	1.79
37	1,110	.....	.....	.....	.....
38	1,140	1,132	Grade Shorthorn ..	1,970	1.74
39	1,170	1,176	Grade Shorthorn.....	1,940	1.65
40	1,200	.....	.....	.....	.....
41	1,230	1,220	Shorthorn.....	2,060	1.69
42	1,260	1,269	Grade Shorthorn.....	1,807	1.61
43	1,290	1,295	Grade Shorthorn.....	1,805	1.70
44	1,320	1,304	Grade Shorthorn.....	1,808	1.75
45	1,350	1,335	Shorthorn.....	1,090	1.64
46	1,380	1,384	Grade Shorthorn.....	1,931	1.80
47	1,410	1,420	Hereford.....	1,979	1.80
48	1,440	1,439	Grade Shorthorn.....	1,905	1.82

CLASS C—SHEEP.

Average weights in the rings of the various breeds of sheep and their crosses, exhibited at the 1878 and 1879 Fat Stock Shows:

Breed.	Wether two years old or over...	Wether one and under 2 yrs. old.	Wether un- der 1 year old	Ewe 2 yrs. old or over.	Ewe one and under two years. ..	Ewe under 1 year old.
Cotswold, 1878.....		224		306		180
Cotswold, 1879.....	243	194	150	270	228	132
Average	243	209	150	288	228	131
Other Long Wools, 1878.....						
Other Long Wools, 1879.....	266					113
Average	266					113
Southdown, 1878.....						
Southdown, 1879.....	178	160	94	171	128	100
Average	178	160	94	171	128	100
Other Middle Wools, 1878.....						
Other Middle Wools, 1879.....	213			213	185	
Average	213			213	185	
American Merino, 1878.....						
American Merino, 1879.....						
Average						
Other Fine Wools, 1878.....						
Other Fine Wools, 1879.....						
Average						
Grades and Crosses, 1878.....						
Grades and Crosses, 1879.....	213	177	128	215	160	125
Average	213	177	128	215	160	125

CLASS D—SWINE.

Average weights of the rings of the various breeds of hogs and their crosses, exhibited at the 1878 and 1879 Fat Stock Shows:

Breed	Barrow two yrs. old or over.....	Barrow one and under two years.	Barrow one under one yr. and over 6 months...	Barrow under six mo. old.....	Barrow under one yr. old or over	Sow 2 years old or over	Sow 1 and under two years old.	Sow under 1 yr. and over 6 months..	Sow under 6 months..
Berkshire, 1878.....							452		
Berkshire, 1879.....		469		190	635	510	351	162	
Average.....		469		190	635	481	351	162	
Poland China, 1878.....	651	501	379	192	577				203
Poland China, 1879.....	745	521	330	193	524	484	339	147	
Average.....	698	511	354	192	600	484	339	175	
Chester White, 1878.....	644								
Chester White, 1879.....									
Average.....	644								
Other large breeds, 1878.....									
Other large breeds, 1879.....									
Average.....									
Essex, 1871.....							470		
Essex, 1879.....	472	295		162	440	276	317	153	
Average.....	472	295		162	440	373	317	153	
Other small breeds, 1878.....							410	370	
Other small breeds, 1879.....									
Average.....							410	370	
Grades and crosses, 1878.....		522	298						
Grades and crosses, 1879.....	589	436	361		620	478	365		
Average.....	589	479	359		620	478	365		

CLASS A—CATTLE.

Table giving number of entries of cattle of the several ages and breeds including crosses, exhibited at the 1878 and 1879 Fat Stock Shows:

Cattle.	Steer four yrs. or over		Steer three and under four years		Steer two & under three		Steer one & under two years.....		Cow three yrs. or over		All ages.....		Total...	
	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879
Shorthorn entries.....	2	5	2	3	5	4	3	6	6	8			18	25
Hereford entries.....	1	4	1	2	1	1		3	3	3			5	12
Devons entries.....		1		1				1	1	1			5	5
Other pure breeds entries.....														1
Grades or crosses entries.....	12	18	10	29	12	31	8	14		1			36	88
Sweepstakes entries.....	14	19	8	20	13	21	5	14	6	10			46	84
Grand Sweepstakes entries.....											21	63	21	63
Car loads entries.....		2	2	2	2	3		1					4	9
Dressed Bullock entries.....														7
Heaviest Fat Steer entries.....		7												
Total entries.....	31	51	27	57	33	60	10	39	16	24	21	63	138	303

CLASS C—SHEEP.

Table giving number of entries of sheep of the several ages and breeds including crosses, exhibited at the 1878 and 1879 Fat Stock Shows:

Breed.	Wether two years old or over....		Wether one and under two years.		Wether under one yr.		Ewe two yrs old or over		Ewe one and under two years.....		Ewe under one year..		All ages.		Total.	
	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879
Cotswold entries	5	1	5	2	1	3	16	...	13	...	4	...	...	...	6	44
Other long wools entries	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	3
Southdown entries.....	10	...	8	...	2	...	8	...	2	...	1	...	...	...	...	31
Other middlewools entries	4	...	...	...	...	...	2	...	1	...	...	...	...	...	...	7
American Merino entries .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other fine wools entries .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Grades and crosses entries	18	...	12	...	4	...	10	...	4	...	2	...	...	...	...	50
Sweepstakes entries.....	21	2	12	...	6	4	22	1	16	2	5	...	...	...	9	82
Grand sweepstakes entr's	...	...	...	...	...	...	...	...	...	...	...	...	9	49	9	49
Car loads entries.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
Dressed carcass entries ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12
Total entries.....	80	3	37	2	13	7	58	1	36	2	13	9	49	24	284	

CLASS D—SWINE.

Table giving number of entries of swine of the several ages and breeds, including crosses, exhibited at the 1878 and 1879 Fat Stock Shows:

Breed.	Barrow two yrs old or over.....		Barrow one yr old and under 2 yrs		Barrow six months & und. 1 yr.		Barrow under 6 mos.		Sow 2 years old or over.		Sow 1 year old and under 2 yrs.		Sow 6 mos. and under 1 year....		Sow under 6 months..		Total.	
	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879	1878	1879
Berkshire.....	2	...	5	...	...	...	5	...	1	2	1	3	2	...	3	2	18	
Poland China.....	2	2	6	3	4	1	2	1	2	1	3	...	2	...	1	1	24	
Chester White.....	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	
Other large breeds .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Essex.....	...	2	2	...	...	...	1	...	2	1	2	...	...	...	2	1	12	
Other small breeds .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	
Grades and crosses .....	...	...	1	2	2	...	...	...	2	2	2	...	...	...	...	3	10	
Sweepstakes.....	4	3	7	15	5	7	3	7	...	2	3	...	...	...	6	19	57	
Grand sweepst'k's	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	16	
Car loads.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	
Total.....	7	7	10	30	10	13	4	15	1	18	4	11	...	10	1	12	51	142

CLASS E—FAT POULTRY.

Table giving number of entries of Fat Poultry exhibited at the 1878 and 1879 Fat Stock Shows:

Poultry.	Turkey Cook.	Turkey Hen.	Gander....	Goose	Cook....	Hen.....	Capon ...	Drake ..	Duck.....	Display Poultry.	Wild Game.	Total
Entries 1878.....	...	...	...	...	1	...	1	1	1	...	1	5
Entries 1879.....	1	1	1	1	2	2	...	2	2	2	...	14

CLASS G—DAIRY PRODUCTS.

Table give number of entries of Dairy Products exhibited at the 1879 Fat Stock Show:

Dairy.	Factory cheese.	Farm Dairy cheese . .	Sweeps'kes cheese	Creamey butter.	Dairy butter.	Sweeps'kes butter.....	Grand sweeps'kes	Total.
Entries, 1879.....	15	.....	7	18	11	19		74

WINTER MEETING, 1880.

DEPARTMENT OF AGRICULTURE,
 SPRINGFIELD, Tuesday, 10 o'clock A. M.,
 January, 6th, 1880. }

State Board of Agriculture met in regular annual session.

President Scott in the chair.

Present: President Scott, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Washburn and Landrigan.

Absent: Ex-President Gillham, Vice-Presidents Vittum, Douglas and Stookey.

President Scott addressed the Board as follows:

PRESIDENT SCOTT'S ADDRESS.

Gentlemen: In presenting my second annual address in accordance with precedent, it affords me great pleasure to call your attention to the season of prosperity which the country is entering upon. The improved condition of all kinds of business, the large foreign balance of trade in our favor, has justified the increased confidence manifested by all classes in the encouraging prospects for a revival of trade and a season of great prosperity.

This desirable and much needed change for the better is largely owing to the abundant crops of the past few years, and the large foreign demand for the same at remunerative prices, which has enabled the producer to draw vast sums of money from abroad, and create a demand for manufactured and other articles of daily use, and thus indirectly set all the wheels of commerce in active motion.

The farmers of this State have, within the past year, improved the opportunity, and a larger amount of accumulated indebtedness has been paid than in any corresponding period in the past. With proper economy observed, and continued efforts to improve their financial condition, a few more such crops as the past will make it difficult to find one encumbered farm where, of late years, there have been hundreds.

IMPROVED METHODS OF FARMING.

The vast productions of the large and rapidly increasing tracts of fertile land to the west, that are being added yearly to the cultivated area of the country, is attracting the serious attention of thoughtful men in this State. The earnest, enterprising people to the westward are favored with cheap land, small taxes, and merely nominal transportation rates on stock and grain to our markets, and will soon force the question of successful competition home to the majority of the farmers of Illinois, who, with the large and increasing yearly expenditures incident to the improved condition of the country and the demands of society, must consider some plan of relief.

It is quite evident that the low average yield per acre of the staple crops grown in this State, reflects no credit upon the intelligence and the mode of farming pursued by the majority of farmers, responsible for this unprofitable system of agriculture.

In a term of ten years past the average yield for the State, per acre, of corn has been but a fraction over 29 bushels, while that of winter wheat for the same period is only 13 bushels per acre. Other crops might be named showing the same low and unremunerative average yield per acre. The State average is only about one-half what might reasonably be expected in years not exceptionally unfavorable, with proper cultivation on a soil not surpassed for fertility, and so located as to generally admit of thorough cultivation with the most approved labor-saving machinery.

The better cultivation of Illinois farms is the great desideratum, and is the only relief from western competition. The aid of science, a more intimate knowledge of the results of carefully conducted experiments as to the best varieties of seeds suited to different soils, the best modes of cultivation, the most profitable breeds of domestic animals, are most essential to the best results. Agriculture is and will be the leading industry in this State for many years; and what more important study could be introduced into the rural district schools than a practical elementary text book containing such principles relating to agriculture as enter into the every day life of the cultivators of the soil?

A text book of this character might serve a valuable purpose in encouraging many to pursue a complete course of study on this subject in its various departments, as taught in the State Industrial University.

The law organizing the State Institution makes your President, ex-officio, one of the Trustees for its management, and the relations of this Board to the interest of agricultural education make it incumbent on you to watch closely the progress, and to use every endeavor to promote the advancement of the interests of the Institution. I would call your attention to a series of lectures commencing to-day and continuing during this month, closing with the Annual Institute, and hope through you to enlist the interest of the agricultural people of our State, especially of the younger men, in this course of lectures.

STATE FAIR.

The last exhibition was large, and the superior quality of the stock and articles shown, is admitted by all who had the satisfaction of attending the same. The attendance was not in proportion to the expense, and much below what might have reasonably been expected considering the central location and the favorable weather. The spirit of the age demands improvement and progress in all enterprises and the State Fair is no exception to the rule. The pertinent question presents itself, have our Fairs kept pace with the progressive spirit of the age? It is quite evident that either new features must be introduced to attract sufficient attendance to enable the Board to meet the increasing expenses and premiums, or more rigid economy must be observed.

An examination of the expense accounts of the several departments shows an increase of late years, and where there is a corresponding

enlargement of the exhibit, there can be no question as to the necessity therefor. It is believed that an attractive programme for the amphitheatre for Monday and Saturday of the Fair week, would largely increase the receipts, and not materially enlarge the expenses. This new departure need not necessarily interfere with the custom of allowing exhibitors, in nearly all the departments, to remove their articles Friday night.

LOCATION OF FAIR.

The increasing demands of this Board each succeeding time that the Fair is located, have made the expenses for building stalls, pens, etc., very burdensome to places securing the Fair, and the unsatisfactory accommodations frequently provided are not calculated to engender good feeling on the part of the Board or the locality.

The question of a permanent location, at one or three points in the State, will soon be forced upon the Board for consideration, and is deemed of sufficient importance to justify the recommendation for the appointment of a committee to take this matter into consideration and report to this Board.

FAT STOCK SHOW.

The success attending the second annual exhibition of fat stock exceeded the most sanguine expectations of its warmest advocates, and the record thereof makes one of the most gratifying and instructive pages in the history of the Board. The advantages to breeders, feeders and consumers, of an annual exhibition of the best specimens of fat cattle, sheep and hogs to be found on the continent, is apparent to all. The best results from future shows can be obtained only by establishing a higher standard of excellence from year to year, as experience and statistics may warrant.

In a majority of the rings, a sufficient number of animals have been exhibited, the past two years, to furnish a fair average weight for the several ages, and as the encouragement of early maturity of meat-producing animals is of the first importance, it is suggested that at future exhibitions, no animals below this average be considered eligible. It is believed that this standard will improve the general character of the exhibition, and prevent inferior animals being shown by parties not advised of the superior quality of stock heretofore exhibited.

EXPERT COMMITTEEMEN.

The experiment of employing the best judges obtainable to pass upon stock and articles exhibited at the Fair, has proved highly satisfactory; and when the contemplated reports of the Expert Committees are presented by the several Superintendents, containing the various interesting features of the exhibition, it is believed that there will be no question as to the wisdom of the change, and that the increased expenditure, as compared with previous years, will be considered a good investment.

The annual Bulletin of the State Fair, with the detailed reports of expert committeemen, concerning the several rings of the different breeds of pure bred stock exhibited, can be made one of the most valuable reports of the Board, not only to breeders and feeders, but to all interested in the improved breeds of stock. The educational advantages of the State Fairs can be largely increased through the Fair Bulletin, and be read by many thousands of interested men not in attendance at the Fair.

MUSEUM.

The Museum has received some additions the past season, which, with the accumulated samples and specimens, have been arranged to the best advantage. The committee having the Museum in charge are perfecting arrangements for obtaining, during the coming year, as complete an assortment of suitable samples and specimens as the appropriation made by the last General Assembly will permit.

LIBRARY.

The Library has been enlarged the past year by the purchase of quite a number of much needed works, and the appropriation is being used by the Library committee in completing the collection of all standard works relating to agriculture in its various departments. The report of the Library committee will give detailed information concerning any matters relating to the Library.

WORK OF THE BOARD.

The excellent system adopted by the Board in apportioning the various kinds of work to Standing Committees, has many advantages in enlisting the interest of all the members in the minute details relating to the State Fair and the Fat Stock Show. For detailed information relating to the work of the various committees, you are referred to the complete reports which have been prepared for your consideration, which shows that the work of the Department has been performed faithfully and with great credit to the Board and the State we represent.

On motion of Mr. Reynolds,

The President's address was received and referred to a committee for examination, and report upon the recommendations contained therein.

President appointed as said committee—

Messrs. Reynolds, Dysart and Beaty.

Minutes of the meetings of the Board held during the week of the State Fair at Springfield, September 29, to October 4th 1879, were read, and,

On motion of Mr. Beaty,

Adopted.

Minutes of the meetings of the Board held during the week of the Fat Stock Show, at Chicago, November 10-15, 1879, were read, and,

On motion of Mr. Dysart,

Adopted.

On motion of Mr. Reynolds,
The following resolutions, relating to the routine work of the Board,
were adopted.

Mr. Voorhies introduced the following:

Resolved, That 9 o'clock a. m. Wednesday, January 7th, be appointed as the special hour for the consideration of the report of a committee on the rules and regulations for the State Fair and Fat Stock Show of 1880, said committee to be appointed by the President, and to consist of three members.

Mr. Pullen introduced the following:

Resolved, That 2 o'clock p. m. Wednesday, January 7th, be appointed as the special hour for receiving reports of superintendents of departments relating to the last Fair and Fat Stock Show.

Mr. Dysart introduced the following:

Resolved, That 9 o'clock a. m., Thursday, January 8th, be appointed as the special hour for receiving the reports of Superintendents of Departments concerning the premium list for the State Fair and Fat Stock Show for 1880.

Mr. Emery introduced the following:

Resolved, That the President appoint three members on each of the following committees: 1st, to pass upon Horticultural Displays; 2d, the entries of Grains and Vegetables; 3d, Road Making; 4th, Farm Drainage.

Mr. Epler introduced the following:

Resolved, That the awards recommended by awarding committees on miscellaneous entries at the 1879 State Fair be referred to a committee of three for consideration and report.

Mr. Beaty introduced the following:

Resolved, That a committee of three be appointed to revise the Winter Meeting premiums on Farms, Orchards, Nurseries and Vineyards.

Mr. Haskell introduced the following resolution:

Resolved, That the Illinois State Board of Agriculture extend through the daily press an invitation to his Excellency, the Governor, to the honorable State officials, the members of the press, the officers of the City of Springfield and Citizens to be present at the rooms of the Department Wednesday evening, January 7th, 1880, at 8 o'clock p. m. to witness the exhibition of Grains, Seeds, Vegetables and Fruits.

The President appointed the following committees, provided for in the preceding resolutions:

Horticultural Display—Messrs. Pullen, Haskell, Moore.

Farm Products—Messrs. Washburn, Voorhies, Epler.

Road Making—Messrs. Emery, Snoad, Landrigan.

Farm Drainage—Messrs. Smith, Reynold, Cobb.

Winter Meeting Premiums—Messrs. Gillham, Pullen, Fisher.

Miscellaneous Awards—Messrs. Epler, Smith, Haskell.

Rules and Regulations, Fair and Fat Stock Show—Messrs. Voorhies, Dysart and Epler.

The reports of standing committees being next in order, the following reports were read when,

On motion Mr. Ellsworth,

The reports of standing and other committees were received and adopted, as follows:

REPORT OF COMMITTEE ON ARRANGEMENTS.

To the State Board of Agriculture:

The Committee of Arrangements would beg leave to report that they have had two meetings during the past year, and submit herewith the proceedings of the same as a report of the Committee.

Respectfully submitted,

J. H. SCOTT,
D. B. GILLHAM,
JOHN P. REYNOLDS,
D. E. BEATY,
SAMUEL DYSART,
GEO. S. HASKELL,
E. COBB,
S. D. FISHER.

MINUTES OF THE COMMITTEE OF ARRANGEMENTS.

FIRST MEETING.

DEPARTMENT OF AGRICULTURE,
SPRINGFIELD, 10 o'clock A. M.,
April 8th, 1879. }

Committee of arrangements met as per appointment of Chairman Scott.

Present: Messrs. Scott, Gillham, Haskell, Dysart, Vittum, Beaty, Smith and Fisher.

On motion of Mr. Vittum,

Mr. Fisher was made Secretary of the committee.

The committee were waited upon by President, J. H. Shuck, Secretary, George H. Chatterton, Treasurer, Henson Robinson and John W. Bunn of the local committee and other citizens, with an invitation and carriages for the committee to visit the Fair Grounds.

On motion of Mr. Beaty,

The committee took recess until 2 o'clock P. M., to accept the invitation of the local committee to visit and inspect the Fair Grounds.

AFTERNOON SESSION—2 o'clock P. M.

Committee met as before recess.

On motion of Mr. Dysart,

The specifications of requirements were read and action taken on each section as follows:

No. 1. Size of grounds, entrance and exit gates meet the requirements.

No. 2. Additional cattle stalls to be erected to meet the requirements; 2,500 linear feet additional cattle stalls to be built south on the west tier of cattle stalls as far as the surface of the grounds will admit of, and the balance of the cattle stalls to be in double row on the west side, commencing just north of the short row of stalls running east and west, and extending north to meet the requirements, leaving a sufficient space between the present and the row of stalls to be constructed for the passage of visitors and wagons loaded with forage.

Nos. 3 and 4. Additional horse stalls to be erected to meet the requirements, 2,500 linear feet, the extra stalls to be extended north on east line of stalls to gates, and west on the north end of the grounds, excepting the short stretch where the depression of the ground prevents.

Nos. 5 and 6. The hog and sheep pens to be located just north of the half mile track, and extending east and west, and to be arranged in blocks or sections, each section containing 100 pens surrounding an open space or court, said court to be arranged for storing shipping boxes and litter, and the use of judges while passing upon stock, and to be 24 feet wide and the length of 48 pens, or 238 feet, with two pens at each end and leaving a drive-way of 12 feet at each end of the open court. The four sections for hogs containing 100 pens each, to be constructed as specified and located west of the three sections of 100 pens each required for sheep, with avenues between the sections not less than 30 feet wide.

No. 7. Exhibition Hall, on the grounds, accepted for the space it contains. An additional exhibition hall required, containing not less than 13,500 superficial feet, and to be located south of the present hall, and built in the form specified.

No. 8. The 220 linear feet of shafting, with engine to be placed in position as specified, and located south and west of the amphitheatre.

No. 9. The present poultry shed to be extended and widened to meet the requirements and furnished with coops, as specified.

No. 10. The general headquarters building to be constructed as specified and located south and east of the amphitheatre.

No. 11. The Treasurer's office to be extended west and made to conform to the specifications.

No. 12. Business office, superintendents of hogs and sheep, to be built as specified, and located opposite the south entrance to avenue running north and south between the hog and sheep departments, and not less than 20 feet from the south line of the south tier of pens.

No. 13. Press department to be located in the centre of the amphitheatre, covering a space 16 feet wide fronting the show ring and extending back, the floor to be raised seven feet above the footway next the railing at the track with a passage underneath the floor next the show ring, the platform to be surrounded with railing and provided with table and chairs.

No. 14. Carriage shed adjoining the track on the west side and north of the amphitheatre, accepted when properly glazed.

No. 15. Ladies' drawing room north of the old Floral Hall accepted.

No. 16. Amphitheatre to be enlarged so as to seat 5,000 persons at one time, with booths underneath of sufficient size for the transaction of business.

No. 17. Judges' stand as constructed, accepted.

No. 18. Granary to be constructed as specified, and located south and west of the hog pens, on a line with the north end of the half-mile track.

No. 19. Five privies to be constructed as specified, and located as follows: One north of the hog and sheep pens; one on east side south and west of the exit gate; one on the west side north of the new row of cattle stalls; one south and west of the poultry shed; one south of the new exhibition hall.

No. 20. Half-mile driving track, when put in condition and surrounded with a substantial railing, will be accepted. Show ring around Judges' stand, 400 feet in diameter, to be properly graded and guarded by a railing, as specified.

No. 21. Water to be furnished at three points on the east side and three points on the west side, for horses and cattle; at the east and west ends of the hog and sheep pens; at the dining halls, and at the machine department. The last specified hydrant to be fixed for filling sprinkling wagons.

No. 22. Straw to be furnished as specified.

On motion of Mr. Beaty,

The Secretary was instructed to furnish the local committee with a copy of the proceedings of this meeting, and a diagram of the Fair Grounds with new improvements as agreed upon.

On motion of Mr. Haskell,

Committee adjourned, subject to call of the chairman.

SECOND MEETING.

DEPARTMENT OF AGRICULTURE,
SPRINGFIELD, 9 o'clock a. m., }
September 5, 1879.

Committee of Arrangements met as per call of Chairman Scott.

Called to order by Chairman Scott.

Present—Messrs. Scott, Gillham, Beaty, Dysart, Smith, Haskell, Vittum and Fisher.

The chairman stated the object of the meeting to be the inspection of the grounds, buildings, pens, etc., provided for the State Fair, and named in the specification of requirements.

On motion of Mr. Dysart,

The committee repaired to the Fair Grounds to inspect the improvements. After such inspection and return,

On motion of Mr. Haskell,

The committee proceeded to assign space to the several departments, which resulted as follows:

Class F, Section 1—West wing of Fine Art Hall and the wall space of the wing of the same; also 72 square feet in Floral Hall.

Class G—East wing of Floral Hall, excepting the square next to the Fountain.

Class H—The northwest and south wing of Floral Hall, excepting the three squares near the Fountain.

Class I and L—East wing Fine Art Hall.

Class K—Centre of Fine Art Hall and south wing of said Hall, excepting the corner assigned to Class N.

Class N—The southwest corner of the south wing of Fine Art Hall.

Class A, Cattle—West half show ring.

Class B, Horses—East half show ring.

On motion of Mr. Beaty,

The Citizens' Committee was granted until the 15th of September, 1879, to complete the specifications of requirements.

On motion of Mr. Dysart,

Superintendent Smith, Section 2, Class F, was authorized to construct a shed to cover the shafting.

The following communication was read, when

On motion of Mr. Vittum,

The proposition of Messrs. Borden, Selleck & Co., was accepted with the provision that the animals competing for the special prize be limited to beef animals three years old or over.

[Communication.]

CHICAGO, August 18, 1879.

S. D. Fisher, Esq., Secretary State Board of Agriculture, Springfield, Ill.:

DEAR SIR: We offer as a special premium at the Fat Stock Show, a bullock scale, of the Improved Howe make, valued at \$110; to be awarded to the beef animal showing the greatest average gain per day since birth. We also offer for use during the exhibition, a stock scale, for the convenience of the awarding committees.

Please notify us as soon as possible of the acceptance or rejection of the proposition.

Respectfully,

BORDEN, SELLECK & Co.

On motion of Mr. Smith,

The Secretary was instructed to advertise two weeks previous to the Fair in two weekly papers in each of the following counties to the amount of \$5 00 each, per week, viz: Logan, McLean, Macoupin, Madison, Morgan, Macon, Peoria, Adams, Christian, and in four papers in Sangamon, also the sum of \$50 00 for notices of Fair in the Chicago and St. Louis dailies.

On motion of Mr. Beaty,

The matter of flooring Floral Hall was left to the Superintendents of classes G and H.

On motion of Mr. Vittum,

The committee adjourned subject to call of the chairman.

JAMES R. SCOTT, *Chairman*.

S. D. FISHER, *Secretary*.

REPORT OF COMMITTEE ON PRINTING.

To the Illinois State Board of Agriculture:

The expenses of the Board for printing since the last report of your committee are itemized and given herewith.

The committee would recommend that the agricultural statistics returned by Assessors to this department, in accordance with the statutes, be published separately in pamphlet form as soon after their receipt as tabulation can be made.

The value of these returns mainly consists in their early publication, and the expense therefor is no greater than if published with the crop circular.

There is a constant call for these statistics from all portions of this and other States, the outside demand being principally from manufacturers.

The saving in time required to make numerous copies called for would make it more economical to have an edition printed, the cost to be covered out of the fund already appropriated by the State for the publication of crop statistics.

Your committee would recommend the publication of 3,000 copies annually for distribution to the press of the State, county officials, and to meet the demands of the producing and commercial classes.

The expenses for printing the past year are as follows:

ILLINOIS PRINTING COMPANY.

Agricultural statistical blanks

\$21 00

CHICAGO TIMES.

Advertising Fair and Fat Stock Show..... 44 00

SPRINGFIELD JOURNAL COMPANY.

Printing and stationery.....	\$68 20	
3,000 December, 1878, crop report.....	226 66	
15,000 State Fair premium list.....	435 50	
Entry books, Fair and Fat Stock Show.....	48 50	
Cards and stationery.....	134 50	
Printing and stationery.....	26 50	\$939 86

SPRINGFIELD REGISTER COMPANY.

Printing and stationery.....	\$20 75	
Printing and stationery.....	15 25	
Printing and stationery.....	11 00	
State Fair posters.....	45 75	
Drainage circular, 10,000 copies.....	135 00	227 75

SPRINGFIELD PRINTING COMPANY.

Printing and stationery.....	\$22 25	
Printing and stationery.....	12 95	35 20

CHICAGO EVENING JOURNAL.

1,500 2-sheet posters, State Fair..... 181 00

STAATS WOCHENBLATT, SPRINGFIELD.

Fat Stock Show report, 2,000 copies..... 128 62

SPRINGFIELD MONITOR.

June, 1879, crop report, 3,000 copies.....	\$183 30	
July crop report, 3,000 copies.....	64 65	
August crop report, 3,000 copies.....	114 55	
		362 50
		\$1,939 93

Respectfully submitted,

JAS. R. SCOTT,
J. L. MOORE,
J. P. REYNOLDS,
S. D. FISHER,
Committee.

REPORT OF COMMITTEE ON MUSEUM.

To the Illinois State Board of Agriculture:

Your committee take pleasure in calling attention to the very satisfactory beginning made during the past year in arranging and placing on exhibition the samples and specimens heretofore collected for the museum, as well as the collection of a very respectable number of new articles named in the attached list.

The committee have expended \$305 48 during the past year, leaving a balance of the yearly appropriation of \$1,194 52.

This balance will be somewhat reduced when the bill for taxidermy is paid.

The plan of enlisting the general public in the work of collecting samples, by sending out printed circulars and letters to agricultural organizations and individuals, has proved a failure, and your committee have adopted the plan of letting by contract to the lowest and best bidder, the furnishing of such articles as can be properly specified.

The committee have under consideration a list of the most desirable varieties of fruit to be represented in wax, the merchantable woods of the State, the leading kinds of grains and seeds suitable for cultivation in the State, as well as a more complete collection of poultry and some of the domestic animals, with a view of inviting proposals from competent parties, who will make it a business to collect the best samples and specimens for the museum.

The Museum is already attracting considerable attention, and no better medium of advertising the vast mineral and agricultural resources of the State can be provided for the inspection of non-residents seeking new locations for farming or the investment of capital—than a creditable and complete collection of the agricultural and mineral products of the State.

The necessity of co-operation on the part of all the members of the Board in the work of increasing the collection is apparent, and your committee would recommend some action by the Board looking to that end.

The following is a list of the additions to the museum.

Respectfully submitted,

JAMES R. SCOTT,
JOHN P. REYNOLDS,
S. D. FISHER,
Committee.

List of additions to Agricultural Museum since July 1st, 1879.

Article.	Contributor.	Locality.
Red Winter Wheat.....	Mrs. E. Furrow.....	Rochester.
Orange Wheat.....	G. A. Taylor.....	Rushville.
White Winter Wheat.....	W. J. Ellinwood.....	Chicago.
.....	Wm. Schenck.....	Maroa.
Mediterranean Wheat.....	D. W. Lyerlee.....	Anna.
Winter Wheat (in head).....	H. J. Loomis.....	Macoupin county.
Wheat (in head).....	.....	Colorado.
.....	.....	Canon City. Col.
.....	.....	Canon City. Col.
.....	.....	Canon City. Col.
Seven Headed Wheat.....	Austin Harlow.....	Canon City. Col.
Zimmerman Wheat.....	Aust. Harlow.....	Canon City. Col.
Wheat (pyramid of heads).....	G. W. Cox.....	Salisbury.
Silver Chaff.....	Felix Carver.....	Springfield.
Red Spring Wheat.....	J. B. Perkins.....	Woodside.
.....	Wm. Schenck.....	Maroa.
Wheat.....	G. B. Hickman.....	Lincoln.
.....	.....	Tasmania.
White Wheat.....	.....	New South Wales.
Wheat (67 lbs. per bushel).....	.....	Victoria, Australia.
White Wheat (39 bushels per acre).....	.....	Illinois.
Wheat.....	.....	Tasmania.
Clawson Wheat (50 bushels per acre).....	S. O. Gregory.....	Russia.
White Corn.....	B. L. Auxier.....	McHenry county.
Yellow Corn.....	William Sanders.....	Berry.
Rice Pop Corn.....	Felix Carver.....	Warrensburg.
Pop Corn.....	W. Stevens.....	Springfield.
Red Pop Corn.....	J. D. Caton.....	Springfield.
Stalks of Corn (19 feet high).....	Jesse R. Johnson.....	Ottawa.
Oats.....	Wm. Schenck.....	West Liberty.
.....	C. S. Anthony.....	Maroa.
Buckwheat.....	J. H. Murphy.....	Berlin.
.....	Chas. Beerup.....	Bement.
Fall Barley.....	Wm. Schenck.....	Springfield.
Spring Barley.....	Wm. Schenck.....	Maroa.
Orchard Grass Seed.....	W. J. Ellinwood.....	Maroa.
Blue Grass Seed.....	Geo. S. Haskell.....	Chicago.
Clover Seed.....	W. J. Ellinwood.....	Rockford.
.....	A. B. Watts.....	Chicago.
Timothy Seed.....	W. J. Ellinwood.....	Farmingdale.
Castor Beans.....	Trumbull, Reynolds & Allen.....	Chicago.
Rye.....	I. McMurray.....	Kansas City, Mo.
.....	Wm. Schenck.....	Farmingdale.
Hominy Corn.....	Conkling's Mill.....	Maroa.
Hominy.....	Conkling's Mill.....	Springfield.
Fine Grits.....	Conkling's Mill.....	Springfield.
Pearl Meal.....	Conkling's Mill.....	Springfield.
Corn Flour.....	Conkling's Mill.....	Springfield.
Feed.....	Conkling's Mill.....	Springfield.
Canned Corn.....	Mrs. Jennie Taggart.....	Decatur.
Canned Apples.....	Mrs. Jennie Taggart.....	Decatur.
Seed Heads of Saccharum.....	.....	Brazil.
Brazilian Tea Leaves.....	.....	Brazil.
Brazilian Tea (prepared).....	.....	Brazil.
Variegated Sunflower Seed.....	.....	.....
Mammoth Sunflower Seed.....	.....	.....
Sugar Beet Seed.....	.....	.....
Cake of Mandioca.....	.....	Parana, Brazil.
Vegetable Silk.....	.....	Brazil.
Lincoln Beans.....	Miss S. C. Harris.....	Springfield.
Oatswool Wool (22 inches long).....	J. R. Megginson.....	Jacksonville.
Oatswool Wool (fleece 16 pounds).....	J. R. Megginson.....	Jacksonville.
Oatswool Wool (fleece 17 pounds).....	J. R. Megginson.....	Jacksonville.
Oatswool Wool (fleece 15 pounds).....	J. R. Megginson.....	Jacksonville.
Oatswool Wool (fleece 15 pounds).....	J. R. Megginson.....	Jacksonville.
Cocoons, Japanese.....	E. V. Boissere.....	Silkville, Kansas.
Green Cocoons, Japanese.....	E. V. Boissere.....	Silkville, Kansas.
Green Cocoons, Japanese.....	E. V. Boissere.....	Silkville, Kansas.
French Cocoons.....	E. V. Boissere.....	Silkville, Kansas.
White Cocoons.....	E. V. Boissere.....	Silkville, Kansas.
Almonds.....	P. S. Wilkes.....	Stockton Cal.
Acorns, California.....	Miss N. C. Bradford.....	Columbia, Mo.
Pea Nuts.....	Miss Vinnie Lenoir.....	Columbia, Mo.
Hazel Nuts.....	Miss Laina Bonchelle.....	Columbia, Mo.
Coffee Berries.....	.....	.....

Additions to Agricultural Museum—Continued.

Article.	Contributor.	Locality.
Sugar (Amber cane).....	Warner & Co.....	Crystal Lake.
Syrup ".....	Warner & Co.....	Crystal Lake.
Sugar ".....	Warner & Co.....	Crystal Lake.
Pea Nuts.....	C. M. Schwartz.....	Edwardsville.
Filberts.....		
Pecans.....		
English Walnuts.....		
Brazil Nuts.....		
Almonds.....	Taxidermy.....	
Pair Light Brahmas.....		
" Dark Brahmas.....		
" Buff Cochins.....		
" Partridge Cochins.....		
" Black Cochins.....		
" White Leghorns.....		
" Black Leghorns.....		
" Golden Spanish Polish.....		
" Black-breasted Game.....		
" Black-breasted Red Game.....		
Bantams.....		
Pair Common Guineas.....		
" Bronze Turkeys.....		
" Bremen Geese.....		
" White China.....		
" Rowen Ducks.....		
" Cayuga Ducks.....		
" Pekin Ducks.....		
Gopher (mounted).....	W. Rickard.....	Springfield.

REPORT OF COMMITTEE ON TRANSPORTATION.

To the Illinois State Board of Agriculture:

Your committee would report that the Railroads of the State during the past year have cheerfully co-operated with this Board in advancing the interests of the industrial classes of the State by giving liberal reductions in rates for passengers and freights to and from the Fair and Fat Stock Show thus encouraging an additional number of breeders, manufacturers and producers to make creditable exhibitions for the better information of the general public, who show their appreciation of low rates by increased attendance at the shows held by the Board.

The following railroads have given the rates named, and your committee would recommend that the Secretary be instructed to return the thanks of the Board to the roads named for the substantial aid thus rendered, in advancing the interests of agriculture in the state.

Respectfully submitted,

JAMES R. SCOTT,
D. B. GILLHAM,
EMORY COBB,
W. M. SMITH,
GEO. S. HANKELL,
S. D. FISHER,
Committee.

RAILROAD ARRANGEMENTS

FOR STATE FAIR, 1879.

Chicago & Alton.....
 *Wabash.....
 *Illinois Central.....
 *Ohio & Mississippi.....
 Peoria, Pekin & Jacksonville.....
 *Chicago, Rock Island & Pacific.....
 Chicago, Burlington & Quincy.....
 Chicago, Pekin & Southwestern.....
 Chicago & Paducah.....
 Chicago & Iowa.....
 Toledo, Peoria & Warsaw.....
 Illinois Midland.....
 Pekin, Lincoln & Decatur.....
 †Western Union.....
 Springfield & Northwestern.....
 St. Louis & Cairo Short Line.....
 St. Louis, Alton & Terre Haute.....
 Indianapolis, Bloomington & Western.....
 St. Louis & Southeastern Railway.....

Passengers, one and one-fifth fare for the round trip. Freight will be charged full rate to the Fair, and returned free to points whence shipped, on certificate of the Secretary that the same has been on exhibition, and has not changed ownership.

*Chicago & Northwestern.....

Passengers one and one-fifth fare for the round trip. Freight charges to be paid in advance, but if the property is returned to the place of shipment without change of ownership, the amount of charges will be refunded.

Vandalia Line.....
 †Indianapolis & St. Louis.....

Passengers will be charged half rate. Freight will be taken from any station in Illinois at full tariff rates, and returned to point of shipment free, on certificate of Secretary that the same has been on exhibition, and has not changed ownership.

* Arrangements only cover points in Illinois. † Via Rock Island. ‡ Via Pana.

As nearly all the railroads require prepayment of freight at the station whence shipped, a receipted bill should be taken for the same, which should be certified by the Secretary, on the grounds, Thursday of the Fair.

EXPRESS ARRANGEMENTS.

The United States Express Company, and the American Express Company will each have an office on the Fair Grounds, and will receive and deliver there all matter sent or received by express, without extra charge.

RAILROAD ARRANGEMENTS FOR THE

CHICAGO FAT STOCK SHOW—1879.

*Baltimore & Ohio.....
 Michigan Central.....
 †Lake Shore & Michigan Southern.....
 Pennsylvania Company.....
 Pittsburgh, Cincinnati & St. Louis.....

Will carry Stock to Chicago, at local rates, and refund one-half of the amount paid on presentation of Secretary's certificate that the Stock has been on exhibition.

Chicago, Burlington & Quincy.....
 Chicago & Northwestern.....
 Chicago & Alton.....
 Chicago, Rock Island & Pacific.....
 Chicago & Eastern Illinois.....
 Illinois Central.....
 Chicago & Iowa.....
 Chicago & Paducah.....
 Chicago, Pekin & Southwestern.....

Will carry Stock to Chicago at regular tariff rate, and refund one-third of the amount paid, on presentation of the Secretary's certificate that the said Stock has been on exhibition.

*Arrangements apply to Chicago Division.

†Arrangements apply to Stock shipped in car loads, or in lots of four animals or more; the revenue of the road in no case to be made less than \$12 for 100 miles or less; \$15 for distances between 100 and 200 miles, and \$20 for distances between 200 and 300 miles.

Paid freight bills with Secretary's certificate should be presented to the railroads when applying for a rebate in freight.

These concessions are made upon condition that the roads are released from any and all liability exceeding \$50 per head, in case of injury by accident or otherwise, while in transit, or while awaiting shipment or delivery at stations.

REPORT OF COMMITTEE ON APPROPRIATIONS.

To the Illinois State Board of Agriculture:

Your committee would beg leave to report that the 31st General Assembly made appropriations as follows for this Department for the years 1879 and 1880.

Your committee take pleasure in reporting that all the appropriations asked for in the original bill presented by the Board were made by the Assembly:

APPROPRIATIONS.

Premiums, annual State Fair	\$3,000 00
Salary of Secretary, per annum.....	2,000 00
Clerk Hire, per annum.....	1,000 00
Porter, per annum	600 00
Curator, per annum.....	600 00
Museum, per annum.....	1,500 00
Crop Statistics, per annum.....	1,000 00
Library, Books, Maps, Charts, per annum.....	500 00
Office expenses, postage, expressage, repairs.....	500 00
Total.....	\$10,700 00

Respectfully submitted,

JAMES R. SCOTT,
D. B. GILLHAM,
EMORY COBB,
W. M. SMITH,
J. M. WASHBURN,
S. D. FISHER,
Committee.

REPORT OF SPECIAL COMMITTEE ON SILVER PLATE.

To the Illinois State Board of Agriculture:

The undersigned were appointed a committee to take charge of the premium plate purchased by this Board, but not awarded at the 1878 Fat Stock Show.

There are five pieces of plate to be disposed of—two valued at \$50 00 each, and three valued at \$25 00 each, a total value of \$175 00 for the five pieces.

The plate was placed in the hands of the manufacturer, C. D. Peacock of Chicago, who will keep the same in good order until called for by the Board.

Your committee would recommend that the plate be given as premiums at the Fat Stock Show.

Respectfully submitted,

D. B. GILLHAM,
S. D. FISHER,
Committee.

REPORT OF COMMITTEE ON ROAD MAKING.

To the Illinois State Board of Agriculture:

Your committee who have had under consideration the applications for premiums for the greatest number of miles of earth road made by a township during the year 1879, beg leave to report:

That they find five entries in due form—one from each of the following counties: Iroquois, Champaign, Edgar, Whiteside and Shelby.

From the data given by the applicants we have compiled the accompanying table showing the cost per cubic yard of moving the earth to the road bed.

We also find in all the applications made an important omission, as no reference is made to the size of the ditches as required in the specifications of the board and which we deem of great importance in estimating the amount of earth moved.

We would recommend that the premiums be awarded to Newcomb Township.

Respectfully submitted,

H. D. EMERY,
JNO. LANRIGAN,
C. SNOAD,
Committee.

TABLE—ROAD MAKING.

Township.	County.	Miles Graded.	Width of road-bed between ditch	Average earth put in centre of road.....	Cubic yards of earth per mile	Cubic yards of earth moved.	Cash per cubic yard moved.	Average cost per mile.....	Implements	Soil.
			Feet.	Inch.			Cts.			
Ash Grove	Iroquois...	24½	25	18	4,889	132,000	1.18	\$57.67	Grader.....	Black loam.
Newcomb.	Champaign	33	34	18	6,644	219,384	.50	33.50	Grader.....	Black loam.
Paris	Edgar.	31	30	20	6,518	202,058	.74	48.00	Grader.....	Clay & muck.
Portland..	Whiteside.	12	25	10	2,695	32,340	3.71	100.00	Plow and Scraper	Sandy loam, river bot'm and Clay.
Shelbyville	Shelby.....	22¼	34	20	7,688	171,058	.99	75.80	Pl'w, scraper and grader.	Clay, b'lk & gray loam.

REPORT OF COMMITTEE ON MISCELLANEOUS AWARDS.

To the Illinois State Board of Agriculture:

Your committee would report that they have had under consideration the recommendations of awarding committees on miscellaneous entries in the several classes at the late Fair, and report in favor of adopting the recommendations of the committees.

The report presented herewith contains various articles deserving a place in the premium—many articles of utility and daily use have been mentioned from year to year in the reports on miscellaneous awards, and have frequently received the highest commendations of the Board.

Your committee would recommend that the Superintendents of the Departments be authorized to place such articles, receiving the highest commendation of the Board, in the premium list, and that premiums in amount be offered the articles the same as is now given similar articles in the same lot, also that Diplomas be awarded to articles receiving the highest commendation.

Respectfully submitted,

W. M. SMITH,
GEO. S. HASKELL,
JOHN M. EPLER,
Committee.

AWARDS ON MISCELLANEOUS ENTRIES.

CLASS F—SECTION 1.

J. M. EPLER, *Superintendent.*

LOT 77—STOVES, CASTINGS WORKED METALS, ETC.

Best combined Crank Wrench and Brace Bit:

Joel Watson, Springfield.....Diploma

Granite Iron Work:

Henson Robinson, Springfield.....Highest commendation

Favorite Coffee Pot:

F. W. Nevins, Jacksonville.....Highest commendation

Gasoline Stove:

F. W. Nevins, Jacksonville.....Highest commendation

LOT 78—HOUSEHOLD FURNITURE.

Combination Chair:	
T. D. Hurst, Freeport.....	Highest commendation
Bird Cage:	
James G. Garden, Jacksonville.....	Highest commendation
Cooley Creamers:	
John Boyd, Chicago.....	Highest commendation
Rectangular Mixer:	
Cornish & Curtis, Fort Atkinson, Wis.....	Highest commendation
Lever Butter Worker:	
Cornish & Curtis, Fort Atkinson, Wis.....	Highest commendation
Combination Cabinet:	
J. W. Major, Fairmount.....	Highest commendation

LOT 79—MANUFACTURES OF VARIOUS KINDS.

Record Books:	
Abraham E. Smith, Rockford.....	Highest commendation
Safety Lamp Burner:	
D. A. Stone, Springfield	High commendation
Chimney Cleaner:	
Thomas Thomson, Springfield.....	High commendation
Spring Tug Link:	
D. Risher & Co. Pittsburg, Penn.....	Highest commendation
Display Gloves, Furs and Silk Garments:	
C. Wolf & Co. Springfield	Highest commendation
Metallic Horse Collar:	
Metallic Collar Co., Rochelle.....	Highest commendation
Coiled Barrel Hoop:	
H. McCoy & Co., Pana.....	Highest commendation
Burglar Alarm:	
J. H. H. Bennett, Springfield.....	Highest commendation
Fire Alarm:	
J. H. H. Bennett, Springfield.....	Highest commendation
Door Alarm:	
J. H. H. Bennett, Springfield.....	Highest commendation
Bee Hive:	
Elvin Armstrong, Jerseyville.....	Highest commendation
Telephone:	
J. C. Duncan, Springfield.....	Highest commendation

LOT 80—SEWING AND KNITTING MACHINES.

Family Sewing Machine:	
J. H. H. Bennett, Springfield.....	Highest commendation
Family Sewing Machine:	
J. H. H. Bennett, Springfield.....	Highest commendation

CLASS G—FARM PRODUCTS.

SAMUEL DOUGLAS, *Superintendent*.

LOT 85—GRAINS AND SEEDS.

Mixed Corn:	
John Whitesides, Springfield.....	Highest commendation
Laundry Starch:	
G. F. Rich, New York City.....	Highest commendation
Flax Seed and German Millet:	
John H. Murphy, Bement.....	Highest commendation

LOT 87—BUTTER, CHEESE, ETC.

Milk and Cream Cans and Butter Pans:	
Davis & Fairbault, Arena, Wis.....	Highest commendation
Best Dairy Salt:	
Thomas Higgins, Liverpool, Eng.....	Highest commendation
Honey Knife:	
Elvin Armstrong, Jerseyville.....	Highest commendation
Bee Smoker:	
Elvin Armstrong, Jerseyville.....	Highest commendation
Display of Honey:	
Elvin Armstrong, Jerseyville.....	Highest commendation

LOT 88—BREAD, CAKES, ETC.

Baking Powder:	
Brown & Wilson, Springfield.....	Highest commendation
Chocolate Cake:	
Miss M. W. Canfield, Springfield.....	Highest commendation
Jar Fried Potatoes:	
Mrs. Caroline Doul, Springfield.....	Highest commendation

CLASS H—HORTICULTURE.

GEO. S HASKELL, *Superintendent.*

LOT 89—TREES.

Your committee would also recommend that honorable mention be made of the following new plants exhibited by Baird & Tuttle, Bloomington, Ill :

New Coleus, "Surprise."
 New Coleus, "Distinction."
 New Coleus, "Harlequin."
 New Canna, "Hybuda Inaiflora,"

and the magnificent collection of "Crotons," as exhibited by this firm.

LOT 91—FLOWERS AND PLANTS.

(By Amateur.)

Collection of Plants:	
C. A. Gehrman, Springfield.....	\$12 00

CLASS H—HORTICULTURE.

B. PULLEN, *Superintendent.*

LOT 97—PRESERVED FRUITS, JAMS, ETC.

Crab Apple Jam:	
Grape Jam:	
Quince Jam:	
Dried Cherries:	
Current Preserves:	
Mrs. C. H. Woodroof.....	Highest commendation
Preserved Watermelons:	
Mrs. J. A. Patterson, Edinburg.....	Highest commendation

Current Jam:	
Strawberry Jam:	
Peach Jam:	
Gooseberry Jam:	
Hattie Mehrtens, Atlanta.....:	Highest commendation
Tomato Marmalade:	
Mrs. C. W. Freeman, Springfield.....	Highest commendation

LOT 98—PICKLES, CATSUPS.

Pickled Apples:	
Mollie Schamel, Springfield.....	Highest commendation
Pickled Tongue:	
Pickled Herring:	
Vinegar:	
Mrs. L. C. Reiner, Springfield.....	Highest commendation
Pickled Pears:	
Pickled Walnuts:	
Chili Sauce:	
Walnut Catsup:	
Mrs. Nancy E. Taylor, Jacksonville.....	Highest commendation

CLASS I—FINE AND LIBERAL ARTS.

JOHN P. REYNOLDS, *Superintendent.*

LOT 99—FINE ARTS.

Photographic Composition in Crayon:	
J. A. W. Pittman, Springfield	Highest commendation

LOT 101—PRINTING, ENGRAVING, PENMANSHIP, ETC

Carved Wood Chain:	
Andrew Ohlson, Cantrall ..	High commendation
Business Penmanship:	
Business College, Jacksonville.....	High commendation
Exhibits of Students Work in Book-keeping:	
Business College, Jacksonville	Highest commendation
Exhibit in Penmanship by Students:	
Business College, Jacksonville	Highest commendation
Display of Pen Work:	
D. L. Musselman, Quincy.....	Highest commendation

LOT 102—WAX FEATHERS—HAIR WORK

Worsted Wreath:	
Miss Bell Weis, Springfield.....	Highest commendation
Zephyr Wreath:	
Mrs. J. H. Lockridge, Auburn	Highest commendation

CLASS K—TEXTILE FABRICS.

E. H. BISHOP, *Superintendent.*

LOT 103—MILL FABRICS.

Display of Shoddy:	
Frank Godley, Springfield.....	High commendation

LOT 104—QUILTS AND NEEDLE WORK.

Display of Hand Sewing:	
Carrie B. Nance, Petersburg	Highest commendation

CLASS L—NATURAL HISTORY.

JOHN P. REYNOLDS, *Superintendent.*

LOT 110—TAXIDERMY, MINEROLOGY.

Collection Tropical Birds—Taxidermy: Chas. K. Worthen, Warsaw.....	Highest commendation
Hen and Chickens—Taxidermy: Miss Florence Shrader, Springfield.....	High commendation

REPORT OF LIBRARY COMMITTEE.

To the State Board of Agriculture:

Your committee would report that some valuable additions have been made to the Library, of foreign and domestic books and periodicals, during the year, which have been appreciated and consulted by a large number of persons, there being reference books not found in any public library in the State.

There has been expended for this purpose during the year

For bound books	\$308 52
For Magazines and papers	51 75
For binding Magazines and papers.....	55 00
Amounting to.	\$415 27

Leaving unexpended of the appropriation \$770 58 available for the renewal of subscriptions for publications, and for additional desirable books.

The Library has been largely increased by the exchange of transactions and journals with other associations of kindred character from many states.

The rooms of the Society have been regularly supplied with nearly all the agricultural and horticultural journals of the country, in exchange for the crop and other reports of the Board, the number on the table being near seventy.

There has been added to the library in exchange for the old set of the Am. Cyclopaedia, files of the "Prairie Farmer" neatly bound from 1843 up to 1865.

We would recommend the immediate publication of a library catalogue, in pamphlet form. In addition to the catalogue already in type, a revision has been made embracing the new books added during the year, as follows:

H. D. EMERY,
GEO. S. HASKELL,
S. D. FISHER.

LIST OF BOOKS.

ANIMALS.

No.	Title of Work.	Author.
1098	Animal Kingdom	W. Bingley.

ARCHITECTURE.

1099	Cottages, village and farm	
1100	Cottage architecture.....	

FARM AND GARDEN.

1101	Beet-root Sugar	Grant.
1102	Vegetation	Derens.
1103	Rot Smut, etc.....	Cook.

GEOLOGY.

1104 1125	{ Geological Reports, Pennsylvania, 22 Vols.....	
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SCIENCE.

No.	Title of Work	Author.
1126	Scientific Agriculture.....	Norton.
1127 1128	Scientific Farmer, 2 Vols

MISCELLANEOUS.

1129	Biology, 2 Vols	Spencer.
1130	Eminent Domain	Mills.
1131	Foot-prints of Time.....	.....
1132	Fine Wool.....	Randall.
1133	Forestry, Report on.....	Hough.
1134	Home Grounds	Scott.
1135	Instruction of California, Public.....	.....
1136	Mammoth Cave .....	.....

HERD BOOKS.

1138	American Jersey Cattle Club Register, Vol. 6. ....	.....
1139	Clydesdale Stud Book, Vol. 1 .....	.....
1140	English Shorthorn Herd Book, Vol. 24.....	.....

REPORTS, ETC.

CONNECTICUT.

1141. Agricultural Report, 1878.

ILLINOIS.

1142. Board of Public Charities, 1878.

1143-48. Chicago Board of Trade, 1871, 1872, 1873, 1874, 1875, 1876.

INDIANA.

1149. Geological Report, 1878.

IOWA.

1150. Agricultural Report, 1878.

KANSAS.

1150-51. Agricultural Report, 1877, 1878.

MISSOURI.

1152. Agricultural Report, 1878.

NEW HAMPSHIRE.

1153. Agricultural Report, 1878.

OHIO.

1154. Agricultural Report, 1878.

MISCELLANEOUS.

1155. American Poultry Journal.

1156. Cincinnati Price Current, 1878.

1157-63. Country Gentleman, 1858, 1859, 1860, 1861, 1862, 1877, 1878.

1164. Coleman's Rural World, 1878.

1165. Farmer and Fruit Grower, 1878.

1166-68. Kentucky Live Stock Record, 1876, 1877, 1878.

1169-71. National Live Stock Journal, 1876, 1877, 1878.

- 1172-98. *Prairie Farmer*, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1857, 1853, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1869, 1876, 1877, 1878.
1199. *Russia L' Agriculture*.
- 1200-1201. *Spirit of the Times*, 1877, 1878.
1202. *Spirit of the Turf*, 1877.
- 1203-5. *Tasmania Statistics*, 3 vols.
- 1206-8. *Turf, Field and Farm*, 1876, 1877, 1878.
1209. *U. S. Commerce and Navigation*.
- 1210-15. *Working Farmer*, 1849, 1850, 1851, 1852, 1853, 1854.
1216. *Western Farm Journal*, 1878.

The following is the list of periodicals received at the office during the year:

Name of Paper.	Location.	Publisher.
<i>Prairie Farmer</i>	Chicago	<i>Prairie Farmer Co.</i>
<i>Western Rural</i>	Chicago	<i>Milton George.</i>
<i>Western Farm Journal</i>	Chicago & Des Moines, Ia.	<i>G. Sprague.</i>
<i>American Poultry Journal</i>	Chicago	<i>C. J. Ward.</i>
<i>Country Gentleman</i>	Albany, N. Y.	<i>Luther Tucker & Son.</i>
<i>Pantagraph</i>	Bloomington	<i>W. O. Davis.</i>
<i>Gazette</i>	Jonesboro	<i>T. F. Bonton.</i>
<i>Western Agriculturist</i>	Quincy	<i>T. Butterworth.</i>
<i>National Live Stock Journal</i>	Chicago	<i>Stock Journal Co.</i>
<i>Turf, Field and Farm</i>	New York City	<i>Turf, Field & Farm Association.</i>
<i>Coleman's Rural World</i>	St. Louis, Mo.	<i>N. J. Coleman.</i>
<i>California Farmer</i>	San Francisco, Cal.	<i>Warren & Co.</i>
<i>Home and Farm</i>	Louisville, Ky.	<i>B. F. Avery & Son.</i>
<i>Argus</i>	Atlanta	<i>Geo. L. Shoals.</i>
<i>Journal of Agriculture & Farmer</i>	St. Louis, Mo.	<i>Phil. Chew.</i>
<i>Western Stock Journal</i>	Cedar Rapids, Iowa	<i>Stock Journal Co.</i>
<i>Kentucky Live Stock Record</i>	Lexington, Ky.	<i>B. J. Bruce.</i>
<i>Journal</i>	Albion	<i>Morris Emmerson.</i>
<i>Pulaski Patriot</i>	Mound City	<i>E. S. Ackerman.</i>
<i>The World</i>	New York City	<i>The World Co.</i>
<i>Factory and Farm</i>	Chicago	<i>Fox, Cole & Co.</i>
<i>Farmer's Review</i>	Chicago	<i>Farmer's Review Co.</i>
<i>Farmer City Reporter</i>	Farmer City	<i>A. Smith</i>
<i>National Board of Trade</i>	Chicago	<i>National Board of Trade Co.</i>
<i>United States Miller</i>	Milwaukee, Wis.	<i>E. H. Cawker.</i>
<i>Gazette</i>	Mt. Carroll	<i>F. H. McDowell.</i>
<i>Democrat</i>	Shelbyville	<i>E. Waggoner.</i>
<i>Observer</i>	Carbondale	<i>A. Ackerman.</i>
<i>Journal</i>	Freeport	<i>A. V. Richards.</i>
<i>Daily State Journal</i>	Springfield	<i>Journal Co.</i>
<i>Daily State Register</i>	"	<i>Register Co.</i>
<i>Daily Monitor</i>	"	<i>T. W. S. Kidd.</i>
<i>Rural New Yorker</i>	New York City	<i>Elbert S. Carman.</i>
<i>Indiana Farmer</i>	Indianapolis, Ind.	<i>Indiana Farmer Co.</i>
<i>Wallace's Monthly</i>	New York City	<i>John H. Wallace.</i>
<i>Farm and Fireside</i>	Springfield, Ohio	<i>P. P. Mast & Co.</i>
<i>Farmer and Fruit Grower</i>	Anna	<i>H. C. Bouton.</i>
<i>Weekly Drover's Journal</i>	Chicago	<i>H. L. Goodall & Co.</i>
<i>Cincinnati Price Current</i>	Cincinnati, Ohio	<i>Charles B. Murray.</i>
<i>American Stockman</i>	Chicago	<i>American Stockman Co.</i>
<i>Journal of Commerce</i>	"	<i>William Baker.</i>
<i>Engineer and Mining Journal</i>	New York City	<i>Scientific Publishing Co.</i>
<i>Land and Home</i>	"	<i>Land and Home Co.</i>
<i>Republican</i>	Pekin	<i>J. B. Bates.</i>
<i>Herald</i>	Lincoln	<i>F. B. Mills.</i>
<i>Commercial Chronicle</i>	Chicago	<i>Commercial Chronicle Co.</i>
<i>The Leaf</i>	"	<i>G. P. Hoffman.</i>
<i>Legal Adviser</i>	"	<i>Legal Adviser Co.</i>
<i>Union</i>	Shelbyville	<i>H. L. Martin.</i>
<i>Register</i>	Moawequa	<i>T. M. Hughes.</i>
<i>Republican</i>	White Hall	<i>Pearce & Clapp.</i>
<i>Gazette</i>	Lanark	<i>Frank F. Livermore.</i>
<i>Berkshire Bulletin</i>	Springfield	<i>American Berkshire Association.</i>
<i>Western Stock Raiser and Iowa Farmer</i>	Cedar Rapids, Iowa	<i>Z. C. Luse.</i>
<i>Gardener's Magazine</i>	London, England	<i>W. H. & L. Collingridge</i>
<i>Gardener's Chronicle</i>	"	<i>William Richards</i>
<i>Mark Lane Express</i>	"	<i>Hazell, Watson & Viney.</i>
<i>The Magnet</i>	"	<i>Walter John Bell.</i>
<i>Journal of Horticulture</i>	"	<i>Edward Harold May.</i>
<i>Journal of Forestry</i>	"	<i>J. & W. Rider.</i>
<i>Journal of Botany</i>	"	<i>West, Newman & Co.</i>
<i>Entomologist</i>	"	<i>John Van Voorst.</i>
<i>Entomologist 2d</i>	"	<i>Simpkin, Marshall & Co.</i>
<i>Live Stock Journal</i>	"	<i>Edward J. Knight.</i>
<i>Family Herald</i>	"	<i>William Stevens.</i>

REPORT OF RECEPTION COMMITTEE.

To the Illinois State Board of Agriculture:

The distinguished guests of the Board including President R. R. Hayes and party were received and entertained by your committee during the State Fair in a fitting manner.

The committee would recommend as an interesting page in the history of the Board, the publication in the annual report of the speeches at the reception of President Hayes at the Fair Grounds.

The large number of prominent visitors present as guests of the Board from this and other states precludes the possibility of mentioning their names.

The general expression of visitors concerning the extent and high character of the exhibition was complimentary.

Respectfully submitted,

JAMES R. SCOTT,
D. R. GILLHAM,
JOHN P. REYNOLDS,
W. M. SMITH,
EMORY COBB
Committee.

PRESIDENT SCOTT'S INTRODUCTION.

It affords me great pleasure, and I appreciate the honor of the privilege of introducing to the industrial classes of the State here assembled, his excellency, Shelby M. Cullom, Governor of the State of Illinois, who will present his distinguished guest and our welcome visitor, Rutherford B. Hayes, President of the United States, and the party accompanying him.

SPEECH OF GOVERNOR CULLOM.

FELLOW CITIZENS—I did not expect to be called upon to make any remarks during the visit of the President and his party to our city, but the President of the State Agricultural Society has requested that I should present President Hayes to this vast audience before me. And I assure you, my fellow citizens, that I shall do so with more than ordinary pleasure.

It has been my fortune to be acquainted with the President of the United States in the halls of Congress, in his seat as Governor of the great state of Ohio, where he lives and also as President of this great nation; and it is not necessary for me to say what you all know, that in these relations of public life I have found him as you have found him—discharging his official duty with the utmost fidelity. [Applause.]

Since the President of the Association has asked me to present him to this audience I have thought for an instant what I should say, and the reflection now runs through my mind that there have been perhaps five Presidents of the United States to whom history will give a more prominent place than any of the other nineteen. Washington was given to the country to lead its armies in the establishment of the American Union, and to start upon its grand career this great nation of ours with its first President. And Jackson was given to the nation at a time when secession first began to develop itself, and it was Jackson's opportunity to say, as he did say, the first man who undertook to take a State out of this Union should be hanged higher than Haman. [Applause.] And Lincoln was given to the country when secession once more became prominent, and when a wise guide was needed to conduct the nation through the struggles in which it became involved, and history—as our worthy President has already said to-day—will give to Lincoln a prominent position in connection with the American Union after most other great names will have been forgotten, except in close relation with the dates and events that embellish the written records. [Applause.] And Grant was given to the country at a time when a great chieftain was required to lead the hosts of the Union on to victory to prevent the overthrow of the republic, and he succeeded in doing it. [Applause.] This leaves now but one more name of the five I have referred to, and which will be more prominent than any of the others to whom I have not referred in connection with American history. As I have said, Washington was raised up to establish the country; Jackson was raised up to put his foot upon nullification in the beginning of our domestic troubles, and Lincoln and Grant were raised up to lead the land through the struggles of war and to strike from the limbs the shackles of slavery that hung upon four millions of American citizens.

And now it remains for me to say, that history will give to the present president of this Union a place alongside of those four great names I have mentioned; because it has been his prerogative—and a great one it is, and well has he performed his part—to bring the country back to a more healthful condition of civil service, and to lift it up again out of the financial troubles in which we found ourselves five or six years ago. [Applause.] Through his wise administration, and the prudence of his Secretary of the Treasury, the nation is to-day more prosperous and more grandly rooted in its prosperity than ever it has been known to be since its foundation. [Applause.]

I will not undertake to say more; but I repeat that it gives me, as a personal friend and acquaintance of our distinguished chief magistrate, great pleasure to present to this vast audience such a man as I now present to you, Mr. Hayes, the president of the United States. [Loud applause.]

At the governor's suggestion, three hearty cheers were given the president, who, bowing to the governor and turning to the amphitheatre, spoke as follows:

PRESIDENT HAYES' ADDRESS.

During the last two or three weeks General Sherman and myself have traveled over several of the States—[Here a voice cried, "Turn this way—can't hear a word over here." "Ah, friend, if I turn to you, somebody on this side will say he can't hear."—and in our travels meeting large audiences like this, we have talked upon all the subjects which we supposed were appropriate for occasions like this; and these gentlemen with note book and pencil (pointing to the reporters) have followed us, and have published what we said, and once in a while, I can't help thinking, they have published what we didn't say [Laughter], until all that we could say and all that we are likely to say has been spread before our countrymen, and until we have thought it a dull sort of business to be repeating over and over again what everyone understands quite as well and perhaps better than we do.

There is, however, one part of it that is altogether agreeable. Something like this I once heard: that a man who should be able to go about among his countrymen and say to them that he was able to tell them how, without the expenditure of much pains or much labor, they could within half an hour make a thousand dollars, would be sure to have a large and interested audience. I can't approach anything of that sort, of course; and yet it is our happiness now to be able to speak to our countrymen of the better prospect of being able to make a thousand dollars, which is open to-day to every man having capital, having labor, or having business enterprise, and capacity to employ anything of the useful industry of life. For five or six years we have been passing through a period of unprecedented business depression, but at last we have reached a point when, it is the general judgment of the best informed people, that that season of embarrassment and distress and bankruptcy has passed away, and we are again entering upon the threshold of good times.

Now this message—this statement which may be so confidently made, it is always agreeable to specify with some degree of detail of the facts upon which it is founded. In Illinois, especially, I may assume, this large audience assembled here before me, are mainly interested as farmers in the coming prosperity. And what are the new facts interesting to you especially, upon which our statement is made?

A very intelligent gentleman, who has been spending one or two years in England, gives this general explanation of the fact with which we are all familiar, that more than ever before the products raised by the farmers of Illinois, find a ready market and may be profitably exported to the countries of the old world. We see in America that the railroad system tends to gather people more and more into the cities—into the large towns. That same tendency is to be observed in England, in France, in Italy, in Germany and the other countries of Europe, until it has come to this point that so large have grown the cities in England, and so many of them are there, that it is no longer profitable for the English farmer to raise the staple products which are raised here in Illinois, but the more profitable articles of the garden are what must now mainly occupy land in England, France, Germany and other countries in Europe; and, therefore, it is that more than ever before the staple means of living, bacon, beef, and so on, wheat, corn, flour, and all other descriptions of provisions raised in this country are going abroad, and the result of that is most favorable to the condition of our whole country. The result is one, which brings prosperity not to the farmer alone, but to every class of our citizens. Within sixty days—and perhaps I am not quite up to the facts, for the facts are gaining upon us all the time, and the story which was a large one when I left Washington may be rather a small one to-day—but yet, I think I may say that within sixty days there has been brought to New York from the other side of the ocean not less than thirty-five tons of gold.

[Applause, and a voice—it is a good thing to have.] Yes, gold is a good thing to have. Whereas, in all our previous history with which you and I are familiar, we knew only that gold was going that way, now we see it coming this way and instead of the great production of the precious metal in our Western Territories all flowing abroad, that which has previously gone abroad is beginning to come back to us; and so with our bonds and our interest bearing obligations—more and more the balance is inclining in our favor. Whatever good there is in foreign trade it is coming, coming, coming, and whatever of disadvantage in foreign trade there has been it is going, going, going. This is the condition of things upon which I have the happiness to congratulate the farmers, the business people and all classes of citizens in Illinois and throughout the country. [Applause.]

I suspect, my friends, that Gov. Cullom and the gentlemen of this Fair desired chiefly, when they invited me to visit their beautiful State, not that I should come to enable you to get acquainted with me, but that I should know how great you were, and having now seen enough of you for that purpose—and I trust that you have seen enough of me for your purpose, or any purpose—I trust you will excuse me from continuing further in this discussion. Upon what ever branch of the subject I should touch the same description of facts would be found. I noticed at a distance as we came out from your city that you are largely engaged here in coal and iron works also. Now that description of enterprise depends perhaps more largely than any other upon simple labor—days' labor. And to illustrate how all this is affecting not merely the farmer who owns the land, and how the business men and the capitalists, but also how it is affecting the laborer, I will mention that in the city of Philadelphia alone I am assured by gentlemen well informed that more than twenty thousand laborers are now engaged at fair living wages—for now nobody is making great profits, but something is being made, and twenty thousand laborers and more at living wages are now employed in Philadelphia, who one year ago were out of employment and seeking it in vain. [A voice, "Good."] That is good, and because it is not merely Philadelphia, but it is Pittsburg and Cincinnati, and all the great cities, and I doubt not you see it here also in Springfield.

Gov. Cullom—You can scarcely find a mechanic that is not engaged. The President (resuming)—And so, my friends, the good time coming, or the good time that has already come reaches those in whose behalf our sympathies should go out most heartily—not that I am here to array in anyway one class of citizens against another, or to prefer one class of citizens to another, but in a discussion of this sort, so large and wide, it comes to just

this, that the largest attention is due to that class containing the most human souls—[Applause]—the greatest number; and therefore, only, it is that I speak with a special emphasis in behalf of those who labor with their hands.

And now, my friends, having pretty nearly stopped once, I will see if I can't entirely stop this time. [Cries of go on, go on; that ain't a good stopping place, etc.]; and I have a feeling that a man can't quite feel satisfied in the presence of a great audience like this, gathered from the people of Springfield and of Illinois, without at least a mention of the name of Abraham Lincoln. [Loud applause.] The great events of his life were connected with maintaining the authority of the government of the United States, and in preserving the union of these states against the assaults of those who would destroy both. With respect to the principles which underlie the constitution of the union and what are called states rights, any words that I may utter may perhaps find, in a great audience like this, many who will dissent from the views which are my views. But it is the great comfort of talking in the United States as I have found everywhere, and as I know I shall find in Illinois, that a man who honestly and sincerely declares his own opinion and expresses his own convictions in a manner respectful to those who differ from him, will always find hospitable hearing. [Loud applause.] I noticed as I went up to your beautiful state house, two mottoes. The upper one read, "National Union," and under it could be read "State Sovereignty." My Illinois friends, Mr. Lincoln said in the mightiest message which a citizen ever delivered to an American congress, the words "State sovereignty" are not found in the constitution of the United States. [Amen and loud applause.] Said he, "that community alone is sovereign which has no political superior." I know not what my friends thought who put up that motto; but it seems to me my business to say to you here that great as Illinois and grand as she is, with so many elements of greatness and so many things to command our admiration and affection—Illinois nevertheless has a superior, and that superior is the United States of America. [Great applause.]

But without discussing this further, my friends, and now having done my duty in saying what I have—indicating that on every question connected with the great struggle which ended in the great civil war—on every such question in my judgment the highest authority is Abraham Lincoln. I bid you good morning. [Great applause and three cheers.]

Amid loud calls for "Sherman," the General, after a little show of coyness, came forward, was introduced by Gov. Cullom, and said:

SPEECH OF GENERAL SHERMAN.

LADIES AND GENTLEMEN—I appeal from the decision of the chair [laughter—a voice "and that's all the good it will do."] I understand this to be a great State Fair, and now the question is, are we on exhibition or are you? [Laughter and cries of "you."] If we are on exhibition, look, for we won't be here long; and if you can give us the blue ribbon do so and let us be on our way. And if you can't we will go on and apply for it at Indianapolis [laughter] and as to the other—if you are on exhibition, I will give the premium to you, if anybody will furnish the ribbon, right away, for it is certainly a magnificent crowd of men, women and children. I thought all the people of Illinois were down at the State Capitol, but there appears to be some here—two or three acres—I don't know how many.

. After what the President has said you can certainly never expect to hear much from me. When we were out on the plains where the Indians were but yesterday, and the buffalo ranged and the elk and the antelope careered in wild freedom, there we felt at liberty to say words of cheer to the brave men and women who went to that land and made corn, rye and wheat grow where so lately there was nothing but buffalo grass and weeds waving in the wind—to them we felt willing to say words of good cheer and praise because they had so soon made a waisté prairie blossom as the rose. But you here in Illinois—every one of these here before me—found the country partially cultivated when you were born, and you have gone on magnificently well, and I hope you will continue to go on, as your fathers did before you. But you don't hold a candle to those fellows out in Kansas. [Laughter and applause.] Whenever you get crowded in this Fair I want its President to tell you all, there is plenty of room for millions more out there. We found one million of brave hearted people, and not one of them complained—every one swore he lived on the best farm, in the best county of the best State in the world. [Laughter.] There wasn't a discontented soul in Kansas, but all had plenty of corn bread and hominy, and plenty of bacon for next winter, and that's all they ask for.

And now, ladies and gentleman, permit me to ask as a favor, let us go see some of these fine horses and cattle out there, for we have spoken to people by the acre until we are just like a sponge squeezed dry, with not a word to say except to thank you again and again for the manifestation of respect and kindness to our chief magistrate, and those favored with the privilege of attending him in his progress. [Applause and cheers.]

Loud calls for Sheridan followed, and when the crowd were told that he was absent, the call was changed to "Oglesby." After a little additional urging from Cullom, Sherman and those about him, "Old Dick" came forward and said:

EX-GOV. OGLESBY'S ADDRESS.

MR. PRESIDENT, LADIES AND GENTLEMEN—I never felt in poorer plight in my life for exhibition upon a fair ground. I feel there is no chance for me. The President of the United States has fairly carried off the day, and in the opinion of all men and women here, is already decorated with the blue ribbon. Next to him comes that other great and good man, who has rendered service enough to his country to make him remembered through unnumbered ages—splendid looking, chivalrous (amusement), always in excellent condition for exhibition on a fair ground [laughter and applause]; you have the universal sanction of this intelligent audience that he fairly wears the red ribbon. Now, where is any ribbon for me? [Laughter; "Take a white one."] Thank you; I am not in mourning yet, and certainly have no ambition for a black one.

I am very much pleased to-day at this large gathering of Illinois people to welcome to the heart of our state the President of the United States and his honorable company. Illinois has been in all times celebrated for two or three extraordinary men, for extraordinary events at one time, and to-day it is the living truth that she is the only State in the Union that holds and possesses at once the only living President of the republic and the only living ex-President of the republic—Hayes in the center of Illinois and almost in the center of the republic, and Grant off on the far hospital shores of the Pacific Ocean. (Sensation.)

May I, in behalf of this crowd, which I feel I may assume, delegates me to give expression to the sentiment I am about to utter, state that we heartily thank the President of the United States for the sound, sensible and patriotic remarks uttered in our hearing to-day, and whatever else may be said of him, the country unites in one common verdict upon him, that he has shown in his heart that he has a genuine devotion to his country and to his country's hopes, aspirations and glory. [Loud applause.] A true and simple man, with unostentatious ways and deportment, he travels from state to state, mingling with the great masses of the people whom he in his heart feels are no better, and no worse, than himself.

It is splendid, ladies and gentlemen, that the world is blessed with such a government to-day. It is the redeeming feature of the civilized world that it is ornamented once for all with a glorious and crowning Republic in which humanity has a foothold and where the world, thank God, stands upon one common equality of right. [Applause.] It is worthy of the love and admiration of all men—it is worthy of the highest ambition of all the youth of our country to struggle through life to maintain and perpetuate these blessed institutions. And the President, I believe, in impressing upon you as he tried to do and as he did, the lesson of devotion to National Union together with States Rights and all that appropriately belongs to those two difficult political problems in our system, does not forget, and those who have read his speeches will remember he never forgets that, side by side with National Union and State Sovereignty, both of which our own great State shield bears to-day, there is in the hearts of the people another great motto, to which the sympathy of the President goes down—the magnificent truth, through all, of the equal rights of all the citizens of the Republic. [Great applause.] And whether we occupy an elevated plane, or walk in the humbler spheres of men and lead a somewhat degraded life—whether we have been ornamented with the blandishments and adornments of civilization, or whether, like the poor slave, we have but just crept out to-day from the hungry manacles of bondage, in this fair and plenteous land of ours all must be regarded as equal before the law and treated with the full rights of American citizenship. [Great applause.]

Now, suppose I were to announce to-day to this audience as a startling fact, that of forty-five millions of people in the United States, our agriculture alone was only competent to feed one-half, so that the other twenty-two millions and a half must be fed with cereals and provisions imported from foreign lands. An absolute pall of despair would fall upon the heads of all who heard me. But let me cite you now to a nation across the water—and the most enlightened nation on the globe, perhaps, with thirty-six millions of people in it—from which the news comes—and comes authentically, too, for it comes based on the experience of a quarter of a century—that in Great Britain, with her thirty-six millions of people, but one-half of her population can be fed from her own soil; eighteen millions of them have to buy bacon and corn and flour shipped largely, and very largely, from the prolific plains of the great Mississippi Valley. [Applause.] We hold to-day, men and women—I say we hold to-day what you do not know, or, if you do know it, it seems to me you are the slowest people in the world to confess it—what? The great Mississippi Valley east of the hundredth meridian and west of the Alleghany Mountains, from the domain of Canada and the Lakes on the north, to the Gulf on the south—this great plateau, this vast plain of fertility. The Mississippi Valley holds to-day a corner, absolutely a corner upon all the agricultural products of the earth for consumption by man. We are to-day holding the key of the great system that feeds the human stomach throughout Europe, in addition to the forty-five or fifty millions of people in our own land. And I am out of patience, I am almost disgusted, when I look at the prices of land and real estate in France, in Germany, in Scotland, in Great Britain, and throughout the Old World; when I look at the high prices which rule there—from three to five hundred dollars an acre—and then turn to the center of my own State, and look over these fair and rich plains which God has blessed with an inexhaustible fertility? I am amazed—I am confounded, when the farmers of our land, the farmers of Illinois—not the politicians, not the merchants, not the capitalists, not the laborers—but the farmers of Illinois are holding this great land down at from twenty-five to thirty and thirty-five dollars an acre, when every single acre of it to-day is worth one hundred dollars in gold. [Great applause.] And before you can count the years it will rise up to one hundred and fifteen, under your very eyes and under your very noses. This coming prosperity of which the president has spoken, here and everywhere he has been—this prosperity is coming on more rapidly than we are, and some of us it cannot touch, but the great mass of our people will feel its inspiring influence; it will take hold of America; it will take hold of the farming industry, it will take hold of real estate, it will take hold of cattle and hogs, as well as of corn and wheat; and it will take hold of the daily toiler and laborer for his daily bread; it will take hold of the working man, the mechanic, the day-laborer, and the tramps—it will take hold of all of them and lift them up onto a higher plain of prosperity and happiness. For we have had our dark period, our bloody season; we have had the most frightful scene of any civilized nation of modern times. But we have left the awful chasm behind us; and there is to be no more secession, no more civil war, and I hope there will be but little civil strife; civil war is impossible in your day or mine. The nation is strong; it pays its honest debts, and holds its mighty head erect before the nations of the earth. It pays the interest on every dollar it owes, and pays it before it is due, and it is ready to meet all its obligations to the world; for it has inscribed upon its banner the motto of the public credit, and its meaning and intention is to pay its just obligations. [Loud applause.]

Why, it makes the man feel proud who can't even pay his own private debts to save his life—makes him rejoice in his very boots and breeches (laughter) to see his Nation so rich and so honest and honorable. It is good for a nation to have a great name; it is

good for a nation to stand high in the estimation of the world, and so, ladies and gentlemen, will it be good for you and me to stand high in the estimation of those men whose debts we can't pay to save our lives, but will try to, and promise not to go back on it and not seek to make a contest between capital and labor, nor a local quarrel between the elements of our society—not seek to settle it by dirty discord and playing upon the fears and errors that lurk at the base of all human systems. No, no, there is a higher plane for the American farmer and citizen.

But don't let me detain you, especially here—don't let me detain you longer from going to look upon those fine horses and fat cattle. [Laughter.] If Gen. Sherman could see them every day, as we do, he wouldn't go so far or so fast to see them, for they are almost as common in Illinois as our good and beautiful women and almost as interesting as our men. But we know their value from hoof to horn. And gracious heavens above, when you begin to talk about the country's prosperity, it is a theme that grows; our resources are exhaustless, and with the noble manhood and noble womanhood which she possesses, Illinois will go forward—tail rearing—amidst the loftiest States of modern times. [Laughter and great applause.]

Petitions from breeders of horses, cattle, sheep and hogs, requesting certain changes in the premium list of the several classes were read, when,

On motion of Mr. Haskell,

The petitions were referred to the superintendents of the classes to which they related.

Communications and circulars from the National Agricultural Association were read, requesting co-operation.

On motion of Mr. Smith,

The papers were laid on the table.

Mr. Cobb introduced the following preamble and resolution, which were,

On motion of Mr. Ellsworth,

Adopted.

WHEREAS, Some of the Public School work shown at the late Fair was worthy of especial mention.

Resolved, That diplomas be granted as follows:

To Mrs. Mary L. Carpenter, County Superintendent of Schools of Winnebago county, for the fullness and excellence of the school work shown from Winnebago county.

To Miss Mary A. West, County Superintendent of Schools of Knox county, for the very high degree of excellence of the school work exhibited from Knox county.

To A. M. Brooks, Superintendent of City Schools, Springfield, Ill., for the completeness and uniformly high grade of the work shown from all departments of the Springfield schools.

To A. F. Nightingale, Principal of the Lake View High School, Ravenwood, for the very superior character of the High School work exhibited.

Communication of L. L. Polk, Commissioner of Agriculture of North Carolina, was read, in reference to the bill introduced into Congress providing for reduced rates of postage on publications of State Agricultural Boards.

The following resolutions, introduced by Mr. Smith, were adopted,

On motion of Mr. Dysart:

Resolved, That the Illinois State Board of Agriculture most heartily approves of the provisions of the bill recently introduced into Congress to reduce the rate of postage on all publications of Agricultural Boards of the several States.

Resolved, That the Secretary is hereby instructed to send a copy of this resolution to each member of Congress from this State.

The following claims were presented for damages sustained by the storm at the Freeport Fair:

W. J. Sawyer, Belvidere	\$26 50
Miss H. J. Bierer, Rockford	8 00

On motion of Mr. Cobb,

The Secretary was instructed to return the claims and invite the attention of the parties to rule 64, page 6, of the premium list, relating to entries, which reads as follows:

"Diligence will be used by the officers of the Board to prevent injury to or loss of animals or articles on exhibition, but the Board will not be responsible for any damage or loss that may occur."

Wm. Ingalls, of Moline, applied for duplicate medal, the original having been lost.

On motion of Mr. Smith,

The Secretary was instructed to furnish a duplicate silver medal to Mr. Ingalls, at his expense.

A communication from F. B. Redfield, of Batavia, N. Y. was read, calling attention to the importance of providing a class in the premium list for Polled Angus cattle.

On motion of Mr. Moore,

The communication was referred to the Superintendent of Class A, Cattle.

Communication of Messrs. Aikin and Ruddick, Keokuk, Iowa, breeders of Duroc hogs, was read, requesting that premiums be provided for Duroc hogs.

On motion of Mr. Beaty,

The communication was referred to the Superintendent of Class D, Swine.

The claim of George Turner, of Chicago, for \$58 00, for slaughtering cattle and sheep at the Fat Stock Show, was presented.

On motion of Mr. Reynolds,

The claim was allowed, and the bill ordered paid.

W. Nindell, of Springfield, requested the Board to reconsider the action, on protest, against the second award on Entomological collection exhibited at the late Fair.

On motion of Mr. Reynolds,

The Secretary was instructed to inform Mr. Nindell that the Board could not reconsider previous action in this case.

The proposition of J. A. Patterson, of Rock Falls, Ill., to give a special premium of a corn planter for the best ten acres of corn was read.

On motion of Mr. Cobb,

The Secretary was instructed to return the thanks of the Board to Mr. Patterson for the liberal offer, and inform him of the rule of the Board against receiving individual premiums.

On motion of Mr. Smith,

The Board adjourned till 2:30 o'clock p. m.

AFTERNOON SESSION.

Board met pursuant to adjournment.

President Scott in the chair.

Present - President Scott, ex-President Gillham, Vice Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vitum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Washburn and Landrigan.

On motion of Mr. Cobb,

The vote was reconsidered, fixing 9 o'clock a. m., Wednesday as the special hour for receiving the report of the committee on rules and regulations for the Fair of 1880.

On motion of Mr. Cobb,

The report of the Committee on rules and regulations for the Fair was made the special order.

REPORT OF COMMITTEE ON RULES AND REGULATIONS FOR THE FAIR.

To the Illinois State Board of Agriculture:

Your committee would beg leave to recommend for the Fair of 1880 the same rules as contained on pages 6, 7, 8 and 9, of the premium list of 1879, with the following additions:

RULES APPLICABLE TO ANIMALS—PAGE 7.

Under this head would recommend a new rule, to be numbered 7, to read as follows:

7. Animals affected by or having been exposed to any contagious disease during the thirty days next preceding the Fair of 1880, will be excluded from the grounds.

RULES GOVERNING ENTRIES—PAGE 6.

Under this head would recommend a new rule, to be numbered 15, to read as follows:

15 Only animals receiving first premiums in the several rings will be permitted to compete for sweepstakes rings in their respective classes.

Rule 2 on page 8, relating to Marshal of the ring, to read as follows:

2 No person will be allowed in the exhibition ring at time of making the awards, excepting the awarding committee on duty, officers of the Board, and grooms in charge of stock.

This rule will be impartially enforced.

Respectfully submitted.

WM. VOORHIES, JR.,
SAMUEL DYSART,
JOHN M. EPLER.
Committee.

On motion of Mr. Landrigan,

The report of the committee was received and the rules recommended taken up and considered seriatim.

On motion of Mr. Landrigan,

Rule 11, page 6, relating to entries was stricken out.

On motion of Mr. Cobb,

The following rule governing entries was adopted, to be numbered 11, and as a substitute for new rule 15, concerning entries in Sweepstakes rings.

11. A single animal may be exhibited as one of a herd or pair, and in Sweepstakes in his or her class: but shall not otherwise be entered in more than one lot.

On motion of Mr. Dysart,

The following new rule was adopted, applicable to awarding committees.

Awards in classes A, B, C and D, shall be made by ballot without consultation.

On motion of Mr. Landrigan,

Rule 20, page 7, was changed to read "Decisions of awarding committees will be final and no appeal will be considered except in case of fraud."

On motion of Mr. Smith,

Rule 21, page 7, defining the duties of awarding committees was stricken out.

On motion of Mr. Beaty,

Rule 1, page 7, applicable to animals was stricken out.

On motion of Mr. Landrigan,

A new rule, applicable to animals, to be numbered 11, was adopted to read, "The Superintendent of classes A, B and C, may exclude stock from competition should there be any unnecessary delay on the part of exhibitors in bringing animals into the show ring."

On motion of Mr. Gillham,

Rule 4 relating to the duties of Superintendents was amended to read as follows: It shall be the duty of each Superintendent to notify the General Superintendent as to the number of policemen required in his department during the Fair, before September 13, 1880.

On motion of Mr. Ellsworth,

The following new rule, under the heading of "auditing committee" was adopted to read: "The auditing committee will sell privileges for dining halls, booths, stands, etc., for the Fair, Thursday, August 26, 1880, at 10 o'clock a. m., on the Fair grounds.

On motion of Mr. Reynolds,

The following new rule under the heading of Marshall of the ring was adopted, as a substitute for the rule of the committee, to read: The Marshall of the ring will exclude all persons from the immediate vicinity of the stock on exhibition in the ring except the members of the acting awarding committees and grooms in charge of animals.

On motion of Mr. Cobb,

The report of the committee as amended, on rules and regulations for the Fair was adopted.

On motion of Mr. Smith,

The Board voted to adjourn the afternoon session to 10 o'clock a. m., to-morrow.

On motion of Mr. Beaty,

The Board accepted the invitation of his Excellency Governor S. M. Cullom, to attend the reception at the Mansion this evening at 8 o'clock.

Turney English, Esq., of Springfield, presented a bill for \$50 00 for services as detective.

On motion of Mr. Beaty,

The claim was referred to the auditing committee for investigation and report.

On motion of Mr. Ellsworth,

Adjourned.

WEDNESDAY, January 7, 1879, 10 o'clock A. M.

Board met pursuant to adjournment.

President Scott in the chair.

Present—President Scott, ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Washburn and Landrigan.

Minutes of yesterday's sessions were read and,

On motion of Mr. Reynolds,

Adopted.

The special order being the receiving and consideration of the report of the committee on rules and regulations for the Fat Stock Show, and coming up, the consideration thereof was,

On motion of Mr. Gillham,

Postponed for the present.

The following preamble and resolutions introduced by Mr. Gillham were,

On motion of Mr. Beaty,

Adopted:

WHEREAS, Hon. E. A. Filley, of St. Louis, has presented the Illinois Department of Agriculture a number of beautiful animal photographs from the studio of the renowned animal photographers of Philadelphia, Pa., Messrs. Schreiber & Sons; therefore, be it

Resolved, That the thanks of the Board are due, and hereby tendered, to Hon. E. A. Filley for his beautiful gift.

Resolved, That the President is hereby requested to have the pictures suitably framed and placed on exhibition in the rooms of the department.

The following petition from the Woman's Temperance Union of Springfield, was presented by a committee of ladies:

SPRINGFIELD, ILLINOIS, January 7, 1879

Illinois State Board of Agriculture:

GENTLEMEN: Having witnessed so much trouble and sorrow, caused by the sale of intoxicating liquors at the State Fair grounds, we feel it incumbent upon us to offer our remonstrance as temperance women of Springfield.

Gentlemen, in so doing we believe we not only represent our own Women's Christian Temperance Union, but all the temperance women of the State who suffered, as did we, in witnessing the mortification and anguish brought upon wives, mothers, sisters and daughters of not only some of the lowliest, but some of our most honored and best hearted citizens.

Believing that, as moral and christian gentlemen, you desire with us the peace and order of society, and as you were also eye witnesses of the sad consequences of the sale of liquors on the State Fair grounds, we entreat your co-operation in preventing the sale of vinous, malt or spiritous liquors on the State Fair grounds in 1880.

MRS. R. H. BEACH, President,
MRS. H. A. ALLEN, Vice-President,
MRS. THOS. H. HENNING, Vice-President,
MRS. H. M. WILSON, Secretary.

On motion of Mr. Smith,

The petition was referred to a committee of three.

President appointed as, said committee, Messrs. Smith, Moore and Haskell.

On motion of Mr. Gillham,

The Board adjourned to 2 o'clock p. m.

AFTERNOON SESSION.

Board met pursuant to adjournment.

President Scott in the Chair.

Present: President Scott, Ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Pullen, Washburn and Landrigan.

The special order being the receiving of reports of Superintendents of departments relating to the late Fair, and coming up, the following reports were received, and,

On motion of Mr. Ellsworth,

Adopted and ordered spread upon the record.

CLASS A—CATTLE.

REPORT OF SAMUEL DYSART, *Superintendent.*

To the State Board of Agriculture:

As Superintendent of Class A, I have the honor of submitting to you the following report of my department at our last Fair.

In the number of animals, the exhibition was larger than usual, there being 616 entries in the different lots. The reduction in the amount of premiums offered by the society some years ago, for "Beef Breeds" of cattle, is given by their breeders as the reason for the decrease in the number exhibited at our late fairs; only two herds of Shorthorns, and the same number of Hereford herds were exhibited at our last Fair. The absence of these large and attractive breeds is noticed by visitors and disappointment that such a limited number are present is frequently expressed.

On the contrary the increased amount of premium money offered for "Milk Breeds" has brought out large exhibitions of the different breeds of cattle specially adapted for that purpose. These are increasing rapidly in numbers, throughout the country, and are brought to the Fairs in such large herds that it is becoming a matter for the consideration of the Board as to the propriety of the expense of providing such a great number of stalls. While it may be desirable to extend to exhibitors all the conveniences possible for stalling stock intended for sale rather than exhibition, we are not in favor of taxing a local community where the Fair is held, by requiring the building of large numbers of stalls for that purpose. We believe it will be necessary for the Board to devise some means for preventing the advantage taken by exhibitors of the privilege granted them in this matter.

The "Milk Breeds" of cattle represent an important interest in our country and are entitled to a full share of the premium money, but from their small size and uneven form they do not make as attractive an exhibit at a fair as the larger breeds.

In the Jersey class there were 215 entries.

Ayrshire.....	118
Holstein.....	69
Shorthorns.....	49
Herefords.....	44
Devon.....	39
Herds and Sweepstakes.....	52
Milk Cows.....	30

The rule of the Board requiring all animals entered to be exhibited was strictly adhered to, but as the committee felt it their duty to examine every animal brought into the ring, we found it required more time and room to do so than are usually allotted on a fair ground; hence, the only effect of this rule has been to increase the labor of the committee and your superintendent; we therefore, hope it will be abandoned.

The condition and quality of the stock exhibited was very fine, and although few in number, we doubt if a better lot of animals were ever brought together than those exhibited in the Shorthorn and Hereford rings. Devon cattle have ceased to be favorites in this country, as well as in England, except in localities, and we consider the payment of premiums to encourage their breeding as but little benefit to the public.

There was a marked improvement over former years in the condition of the "Milk Breeds" yet a much better system of feeding might be practiced without injury to the stock. The erroneous idea that a milk cow should be kept in thin condition when not milking is of American origin and not the practice in the countries from which these breeds are brought. There, during the period of rest before parturition, the future mother is bountifully fed to build up the system preparatory to the drain that follows, with a large flow of milk. The little Jersey cow is usually so well rounded by flesh as to give her a handsome appearance, and the Holsteins we saw on exhibition in Europe, as well as the hundreds in their native pastures would scarcely acknowledge their American kinsmen; they are in such condition of flesh as to entitle them to rank as good beef animals. Whether it be from the effect of climate, water, or insufficient feeding by their owners, we will not venture an opinion, but it is certain that the majority of these breeds, exhibited at our fairs bear strong resemblance to their ancestors, only in color. The Scotch Galloways, and Angus or Fokled Aberdeens are now being bred in our country. The latter breed won the highest prize as beef cattle at the International Exhibition held at Paris in 1873, yet according to the preparation of our list, there was no place in which they could be shown.

The plan of employing expert committee-men in making awards at our fair did not give satisfaction to exhibitors in all cases. Three committee-men being employed for "Beef Breeds," and the same number for "Milk Breeds," it necessarily followed that they passed upon "Sweepstakes," as well as the class rings. The exhibitors strenuously opposed the plan of thus using the same committee a second time on the same animals. In the herd lots, where the different breeds competed no objection was made to showing before the same committee. With the exception mentioned, exhibitors were well pleased and the labors of your Superintendent were expedited, as the usual delays in securing committees were avoided.

The dissatisfaction with decisions between the different breeds of cattle where brought in competition still existed, therefore it is the opinion of your superintendent that it would be better to separate all the different breeds from competition with each other, and let public opinion decide upon the merits of each.

CATTLE ENTRIES.

Lot	Breed, etc	4 years old or over..	3 and un- der 4 yrs.	2 and un- der 3 yrs.	1 and un- der 2 yrs.	Under 1 yr and over 6 months	Under six months..	Total No. entries...	Amount of premiums offered...	Amount paid
1	Shorthorn bulls.....	.....	3	1	2	2	1	9	\$180	\$120
1	" cows and heifers	3	5	4	5	4	.....	21	20	175
2	" sweepstakes bulls.....	.....	.....	.....	.....	.....	.....	6	25	25
2	" " females.....	.....	.....	.....	.....	.....	.....	9	25	25
2	" herd { bull and 5 cows } { or heifers..... }	.....	.....	.....	.....	.....	.....	4	40	40
	Total.....	3	8	5	7	6	1	49	450	385
3	Hereford bulls.....	.....	4	1	1	3	2	11	180	185
3	" cows or heifers	2	1	6	5	4	.....	18	200	160
4	" sweepstakes bulls.....	.....	.....	.....	.....	.....	.....	5	25	25
4	" " females.....	.....	.....	.....	.....	.....	.....	8	25	25
4	" herd { bull and 5 cows } { or heifers..... }	.....	.....	.....	.....	.....	.....	2	40	40
	Total.....	2	5	7	6	7	2	44	450	385
5	Holstein bulls.....	.....	3	2	7	4	1	17	160	160
5	" cows or heifers	6	5	3	9	4	.....	32	200	175
6	" sweepstakes bulls.....	.....	.....	.....	.....	.....	.....	7	25	25
6	" " females.....	.....	.....	.....	.....	.....	.....	8	25	25
6	" herd { bull and 5 cows } { or heifers..... }	.....	.....	.....	.....	.....	.....	5	40	40
	Total.....	6	8	10	16	8	1	69	450	415
7	Devon bulls.....	.....	3	.....	2	2	3	10	160	120
7	" cows or heifers	6	2	2	3	3	.....	19	200	200
8	" sweepstakes bulls.....	.....	.....	.....	.....	.....	.....	2	25	25
8	" " females.....	.....	.....	.....	.....	.....	.....	6	25	25
8	" herd { bull and 5 cows or } { heifers..... }	.....	.....	.....	.....	.....	.....	2	40	40
	Total.....	6	5	2	5	5	6	39	450	410
9	Ayrshire bulls.....	.....	9	3	6	4	6	28	160	160
9	" cows or heifers	15	11	9	13	5	6	59	200	200
10	" sweepstakes bulls.....	.....	.....	.....	.....	.....	.....	10	25	25
10	" " females.....	.....	.....	.....	.....	.....	.....	14	25	25
10	" herd { bull and 5 cows } { or heifers .. }	.....	.....	.....	.....	.....	.....	7	40	40
	Total.....	15	20	12	19	9	12	118	450	450
11	Jersey bulls.....	.....	9	9	8	6	10	42	160	160
11	" cows or heifers	25	18	19	21	11	13	107	200	200
12	" sweepstakes bulls.....	.....	.....	.....	.....	.....	.....	15	25	25
12	" " females.....	.....	.....	.....	.....	.....	.....	4	25	25
12	" herd { bull and 5 cows } { or heifers..... }	.....	.....	.....	.....	.....	.....	7	40	40
	Total.....	25	27	28	29	17	23	215	450	450
13	Herds—milk breeds.....	.....	.....	.....	.....	.....	.....	19	120	120
14	Herds from one bull.....	.....	.....	.....	.....	.....	.....	9	120	120
15	Breeders ring.....	.....	.....	.....	.....	.....	.....	7	120	120
16	Herds—beef breeds.....	.....	.....	.....	.....	.....	.....	7	120	120
17	Herds from one bull .....	.....	.....	.....	.....	.....	.....	4	120	120
18	Breeders ring.....	.....	.....	.....	.....	.....	.....	6	120	120
19	Milk cows.....	.....	.....	.....	.....	.....	.....	30	75	75
	Grand Total.....	57	73	64	82	52	45	616	\$3,495	\$3,290

Respectfully submitted,

SAMUEL DYSART,
Superintendent Class A.

CLASS B—HORSES.

REPORT OF JOHN LANDRIGAN, *Superintendent.**To the State Board of Agriculture:*

The exhibition in Class B, at the late Fair, was of most superior character, all classes being fully represented, especially "Thoroughbreds," "Draft" and "Roadsters."

Inasmuch as great dissatisfaction results from showing different families of Draft Horses in the same ring—many exhibitors accepting the decisions of committees as an award which determines the merits of the respective families, or breeds, rather than the merits of individual animals—therefore, your Superintendent would recommend that hereafter, these families be shown in separate classes, which will result in dispensing with the several sweepstakes.

Lot	Breed, etc.	Four years or over.	Three and under four years.	Two and under 3 yrs.	One and under 2 yrs.	Under one year...	Brood mare with two colts.	Station with five stock-ing colts.	Total entries.	Amount of premiums offered.	Amount of premiums paid.
Thoroughbreds—											
20	Stallions	10	2	3	11	3	.....	.....	29	\$200	\$150
20	Mares	10	3	3	6	4	.....	.....	29	180	180
21	Sweepstakes stallions...	.....	.....	.....	.....	.....	.....	.....	18	50	50
21	Sweepstakes mares.....	.....	.....	.....	.....	.....	.....	.....	15	50	50
	Total.....	20	4	6	17	7	4	.....	89	480	430
Roadster—											
22	Stallions	19	3	9	16	17	.....	1	65	200	200
22	Mares	10	8	10	18	10	10	.....	66	180	180
23	Sweepstakes stallions...	.....	.....	.....	.....	.....	.....	.....	22	100	100
23	Sweepstakes mares.....	.....	.....	.....	.....	.....	.....	.....	21	50	50
	Total.....	19	11	19	34	27	10	1	174	530	530
Horses for all work—											
24	Stallions	30	9	16	20	24	.....	1	100	200	200
24	Mares	33	10	8	15	13	12	.....	91	180	180
25	Sweepstakes stallions...	.....	.....	.....	.....	.....	.....	.....	52	50	50
25	Sweepstakes mares.....	.....	.....	.....	.....	.....	.....	.....	44	50	50
	Total.....	63	19	24	35	37	12	1	287	480	480
Draft horses, imp. or full blood—											
26	Stallions	9	2	4	2	3	.....	4	24	200	200
26	Mares	9	3	1	2	2	1	.....	18	180	180
27	Sweepstakes stallions...	.....	.....	.....	.....	.....	.....	.....	23	50	50
27	Sweepstakes mares.....	.....	.....	.....	.....	.....	.....	.....	13	50	50
	Total.....	18	5	5	4	5	1	4	78	480	480
Draft horses other than imp. or full blood—											
28	Stallions	13	10	9	5	14	.....	1	49	200	200
28	Mares	19	6	12	10	9	6	.....	62	180	180
29	Sweepstakes stallions...	.....	.....	.....	.....	.....	.....	.....	24	50	50
29	Sweepstakes mares.....	.....	.....	.....	.....	.....	.....	.....	38	50	50
	Total.....	29	16	21	15	23	6	1	173	480	480
30	Draft team.....	.....	.....	.....	.....	.....	.....	.....	7	60	60
Horses for ag'l purposes—											
31	Stallions	32	13	19	16	27	.....	2	109	200	200
31	Mares	37	11	17	18	11	17	.....	111	180	180
32	Sweepstakes stallions...	.....	.....	.....	.....	.....	.....	.....	70	50	50
32	Sweepstakes mares.....	.....	.....	.....	.....	.....	.....	.....	68	50	50
	Total.....	69	24	36	34	38	17	2	353	480	480

Respectfully submitted,

JOHN LANDRIGAN,
Superintendent Class B.

CLASS C—SHEEP.

REPORT OF D. W. VITNUM, JR., *Superintendent.*

The sheep department has never been better filled, as to numbers, nor has the display comprised finer individual animals than were found in the pens during the Fair of 1879. The efforts of the Board to render the display in Class C, second to no other feature of the Fair, secured the hearty co-operation of many leading sheep-breeders of this and other States, resulting in a gratifying success.

The several breeds of sheep were represented as follows:

Long Wools.....	216	
Middle Wools.....	94	
Fine Wools.....	146	
Total number on exhibition.....		456
Of these there were owned by citizens of Illinois—		
Long Wools ..	135	
Middle Wools.....	91	
Fine Wools.....	88	
Total owned in State.....	314	
Total owned outside of State.....	142	456
Awards were distributed—		
To citizens of Illinois.....	55	\$815
To non-residents of Illinois.....	10	175
Total in Class C.....	65	\$990

The policy of employing "expert" judges to award premiums in the sheep rings was demonstrated to be a success; meeting as it did with the approbation of exhibitors, who cheerfully acquiesced in the conclusions arrived at, while, at the same time, it relieved the Board of responsibility for awards made upon the employment of such judgment inseparable from the policy hitherto observed. This fact, taken in connection with the unanimous endorsement of the State Wool-Growers' Association, would indicate the continuance of such policy to be of first importance to the success of future exhibitions, and as such is commended to the favorable consideration of the Board.

Bearing upon the success of future Fairs, I herewith submit three schedules of "Points of Excellence," adapted to the several breeds—prepared by committees from the State Wool-Growers' Association, and after mature deliberation, unanimously endorsed by that body—which recommends that hereafter all awards on sheep be made by scaling with reference to such standards. As an advanced step, assisting to a more intelligent judgment on the part of committees, and aiding the interested observer to information which can be turned to practical advantage, the standards and scalings, with the necessary detailed explanations, are placed before you, and their adoption and incorporation into the rules governing the sheep exhibition for the current year respectfully advised. (See A, B and C, hereto attached.)

It is recommended that all questions as to the purity of breeding of sheep exhibited in any of the rings for thoroughbred animals, in cases where the decision of an awarding committee is appealed from, be submitted to and determined by the committee on pedigrees, as in cases of cattle and horses.

The reports of committees on awards, with such suggestions as by them were deemed likely to contribute to the success of future sheep exhibitions, are herewith submitted. (See D, E, F.)

Lot	Breed, Etc.	Two years old or over	One and under two years	Under one year	Total an- nual	Amount premiums paid	Amount premiums received
39	Cotswold rams	6	59	15	70	\$70	\$70
39	" ewes	22	28	11	59	70	70
40	" sweepstakes, rams				14	20	20
40	" ewes				30	15	15
40	" ram and 5 ewes				4	20	20
40	" ram with 5 of his get				2	20	20
	Total	28	85	26	179	215	215
	Leicester and other Long Wools—						
41	Rams	2	5		7	70	55
41	Ewes	1	2	2	5	70	60
42	Sweepstakes, rams				11	20	10
42	" ewes				14	15	15
42	" ram and 5 ewes					20	
42	" ram with 5 of his get					20	
	Total	3	7	2	37	215	150
43	Southdown rams	2	7	6	15	70	70
43	" ewes	6	9	9	28	70	70
44	" sweepstakes, rams				7	20	20
44	" ewes				11	15	15
44	" ram and 5 ewes				2	20	20
44	" ram with 5 of his get				2	20	20
	Total	10	16	15	63	215	215
	Shropshire and other Middle Wools—						
45	Rams	3	2	4	9	70	70
45	Ewes	4	6	2	12	70	70
46	Sweepstakes, rams				3	20	20
46	" ewes				5	15	15
46	" ram and 5 ewes				1	20	20
46	" ram with 5 of his get				1	20	20
	Total	7	8	6	31	215	195
	American Merino—						
47	Rams	16	10	11	37	70	70
47	Ewes	24	19	17	60	70	70
48	Sweepstakes, rams				14	20	20
48	" ewes				25	15	15
48	" ram and 5 ewes				7	20	20
48	" ram with 5 of his get				3	20	20
	Total	40	29	28	146	215	215
	French Merino and other Fine Wools—						
49	Rams					70	
49	Ewes					70	
50	Sweepstakes, rams					20	
50	" ewes					15	
50	" ram and 5 ewes					20	
50	" ram with 5 of his get					20	
	Total					215	
	Grand total	88	145	77	456	\$1,290	\$990

A—LONG WOOLS.

Points of excellence—100 denoting perfection.

Head not too fine, moderately small, and broad between the eyes and nostrils, but without a short, thick appearance, and in young animals well covered on crown with long, lustrous wool.....	8
Face either white, or slightly mixed with gray, or white dappled with brown	4
Nostrils wide and expanded; nose dark.	1
Eyes prominent, but mild looking	2
Ears broad, long, moderately thin and covered with short wool.....	4
Collar full from breast and shoulders, tapering gradually all the way to where the neck and head join. The neck should be short, thick and strong, indicating constitutional vigor, and free from coarse, loose skin.....	{ Ram 6 Ewe 5
Shoulders broad and full, and at the same time join so gradually to the collar forward, and chine backward, as not to leave the least hollow in either place.	8
FORE-LEGS. The mutton on the arm or fore-thigh should come quite to the knee. Leg upright with heavy bone, being clear from superfluous skin, with wool to fetlock, and may be mixed with gray ..	4
Breast broad and well forward, keeping the legs wide apart. Girth or chest full and deep ..	10
Fore-flank quite full, not showing hollow behind the shoulders	{ Ham 5 Ewe 4
Back and loin broad, flat and straight, from which the ribs must spring with a fine circular arch	12
Belly straight on under line.....	{ Ram 3 Ewe 5
Quarters long and full, with mutton quite down to the hock	8
Hock should stand neither in nor out	2
Twist or junction inside the thighs deep, wide and full, which, with a broad breast, will keep the legs open and upright.....	5
FLEECE.—The whole body should be covered with long, lustrous wool.....	18
Total	100

B—MIDDLE WOOLS.

Points of excellence—100 denoting perfection.

BLOOD.—Purely bred from one or more of direct importations from Great Britain....	10
CONSTITUTION AND QUALITY —Indicated by form of body; deep and large in breast and through heart; back wide and straight, well covered with lean meat or muscle; wide and full in thigh, also deep in flank; skin soft and pink color, prominent eyes and healthful countenance.....	25
SIZE.—In fair condition when fully matured. Rams should weigh not less than 200 pounds, and ewes not less than 170 pounds.....	10
GENERAL APPEARANCE AND CHARACTER.—Good carriage, head well up, elastic movement, showing great symmetry and form, and uniformity of character throughout..	10
BODY.—Well proportioned, small bones, great scale and length, well finished hind-quarters thick back and loins, standing with legs well placed outside, the breast wide and prominent in front	10
HEAD.—Short and broad, wide between ears, and well covered with wool, color dark gray, a light muzzle not objectionable; ears short	10
NECK.—Short and heavy, especially toward shoulders	5
LEGS AND FEET.—Short and well set apart; color dark gray, and woolled to the hoof; hoof well shaped ..	5
COVERING.—Body, belly, head and legs well covered with an even fleece both in length and quality—Scrotum of rams also well covered.....	10
QUALITY OF WOOL.—Medium, such as is known in our markets as half-combing wool ..	5
Total.....	100

C—FINE WOOLS.

Points of excellence—100 denoting perfection.

BLOOD.—Thoroughbred, <i>i. e.</i> purely bred, from one or more of the direct importations of Merino Sheep, from Spain, prior to the year 1812, without the admixture of other blood.....	1
CONSTITUTION.—Indicated by form of body; deep and large breast cavity, broad back, heavy quarters, with muscular development forming capacious abdomen, skin thick, but soft, of fine texture and pink color; expansive nostril, brilliant eyes, healthful countenance, and good size, age considered	15

SIZE. —In fair condition, with fleece of twelve months' growth; full-grown rams should weigh not less than 185 pounds, and ewes not less than 120 pounds.....	7
GENERAL APPEARANCE. —Good carriage, bold style, elastic movement, showing in particular parts as well as general outline, symmetry of form.....	8
BODY. —Throughout, heavy bones, well proportioned in length, smooth joints, ribs starting horizontally from backbone and well rounded to the breastbone, which should be wide, strong and prominent in front; strong backbone, straight and well proportioned as to length. Heavy, muscular quarters, deep through and squarely formed behind and before, with shoulders well set on, neither projecting sharply above the backbone nor standing so wide and flat as to incur liability to slip-shoulder.....	8
FOLDS AND WRINKLES. —Folds on the ram should be larger than on the ewe. Large and pendulous folds from the chin or jaws, succeeding each other down the neck to the brisket, ending with large fold, or "apron," and extending up the sides of the neck, but lighter if at all extending over top of neck, two or three behind the fore-leg or shoulder, one on front of hind leg, hanging well down across the flank, two or more on rear of hind legs, or quarters, extending upward toward the tail, with one or two on and around the tail, giving the animal a square appearance on the hind-quarters, and straight down as may be from end of tail to hock joints and hind-feet. In addition to folds, small wrinkles over the body and belly are desirable as forming compactness of fleece, but not large enough to be apparent on the surface of grown fleece or to cause a jar in its quality, thus leaving the body of the fleece even in quality and free from the jar of large folds over the body.....	10
HEAD. —Wide between the ears and between the eyes and across the nose, short from top of head to tip of nose; face straight, eyes clear and prominent; ears thick, medium size, and, together with the face, nose and lips, white, and covered with soft fur or downy wool. Ewes should give no appearance of horns; while upon rams the horns should be clear in color, symmetrically curved, without tendency to press upon the sides of the head or to extreme expansion.....	6
NECK. —Medium length, good bone and muscular development, and, especially with the rams, heavier toward the shoulders, well set high up, and rising from that point to the back of the head.....	5
LEGS AND FEET. —Legs medium, or short in length, straight and set well apart forward and back, heavy bone, smooth joints, with large muscular development of the forearm; thick, heavy thighs, wide down to hock joints, and from knee joints downward covered with short wool, or the soft furry covering peculiar to the ears and face; hoofs well shaped and of clear color.....	5
COVERING. —Tendency to hair and gare upon any part of the sheep is to be avoided. Evenness of fleece in length, quality, density, lustre, crimp, trueness, strength and elasticity, covering the entire body, belly and legs to the knees; head well covered forward, squarely to a line in front of the eyes; well filled between the eyes and ears or horns, and well upon the cheeks; muzzle clear with small opening up to and around the eyes. Sorotum of rams covered with wool free from tendency to hair ...	15
QUALITY. —Medium, but such as is known in our markets as fine delaine and fine clothing wool distinctly better in quality, lustre, crimp and elasticity than the wools of the same length grown upon the common grade of sheep.....	5
DENSITY. —Shown by the compactness of the fleece, throughout which should open free but close, showing very little of the skin at any point, even at the extremities.....	10
LENGTH. —At one year's growth not less than two and one-half inches, and as near as may be uniform in length to the extremities of the fleece.....	5
OIL. —Evenly distributed; soft and flowing freely from skin to surface; medium in quantity.....	5

D—REPORTS OF COMMITTEES ON LONG WOOLS.

Hon. D. W. Vittum, Jr., Superintendent Class C, Sheep:

The undersigned, committee to make awards in Lots 39 and 41, respectfully reports: The exhibition of Cotswolds was very good, embracing many superior animals. The Leicesters and Lincolns were not the best of those breeds falling short, both in number and quality, of what should reasonably be looked for under the encouraging auspices of the State Board of Agriculture.

The Kentucky sheep were fair animals, possessing some commendable points. I do not favor the policy of offering premiums for animals of doubtful purity of blood, and no superior points and only valuable to the degree in which they approach the standard of some recognized breed.

The points upon which I based my judgment are size, symmetry of form, constitution—with apparent ability to transmit these to progeny—quantity and quality of fleece.

As a whole I deem the show of Long Wools a credit to the State Fair.

SAMUEL WELCH,
Plainview, Macoupin county, Ill.

Hon. D. W. Vittum, Jr., Superintendent Class C, Sheep:

The undersigned, in closing his duties as committee on Long Wool, Sweepstakes, would make the following report:

In Lot 42, including Long Wools other than Cotswolds, there were but few entries, and the integrity of the pedigree of some individuals fairly questionable. While some entries were of decided merit, yet as a whole the exhibit could not be called superior.

In the present condition of Long Wool flocks this Lot, as well as Lot 41, must necessarily include all Long Wools other than Cotswolds. As these breeds have, through crossing, become so thoroughly intermingled that there are but few flocks strictly pure, and as improvement is claimed by many through the crossing of breeds, the undersigned would suggest the propriety of adding after "Long Wool" in Lot 41, the words, "and crosses."

The exhibit in Lot 40 was large as to number and uniform in excellence, the best your committee has ever seen upon the State Fair Grounds. Especially was this excellence seen in the first and second rings, where among a large number of superior animals the awards were finally made upon superiority in a single point. In the first ring, upon a fleece remarkable for its length, lustre and fineness; and in the second, upon greater depth of carcass, other points of course being considered equal.

The undersigned, in closing, would suggest to the Superintendent of Class C, the propriety of using a part of the sheds when the pens are not all filled for the exhibition of sheep, thus relieving both exhibitors and committees of unpleasant exposure to the weather.

GRAHAM LEE,
Hamlet, Mercer county, Ill.

E—REPORTS OF COMMITTEES ON MIDDLE WOOLS.

Hon. D. W. Vittum, Jr., Superintendent, Class C, Sheep:

The display of the rings of Middle Wool Sheep divided between Southdowns and Shropshire downs, in about the proportion of two of the former to one of the latter embraced animals of very high merit, reflecting great credit both upon the breeders and the State, and should have been seen by every visitor to the State Fair, a privilege which the unfavorable location of the sheep pens rendered impossible to many.

The uniform excellence of the individual animals rendered the task of properly placing the prizes, one of considerable difficulty. While giving preference to such animals as possessed the best meat-producing points, your committee was careful to keep in sight the fact that the maximum profit in sheep husbandry is to be found in a combination of meat and wool production; and hence where animals were of nearly equal excellence in meat-carrying points, gave preference to those which promised to add to such value that of a profitable fleece. The admirable condition of all the animals passing under the notice of your committee attests the fact that their owners have not been unmindful of those attentions in the line of feeding and handling which contribute to the comfort, thrift and general appearance of their flocks.

Respectfully submitted,

C. T. HOPPIN,
White Oak, Montgomery county, Illinois.

Hon. D. W. Vittum, Jr., Superintendent Class C, Sheep:

I have the honor to report, that in the sweepstakes classes for middle wool sheep, lots 44 and 46, there were but two breeds exhibited—Shropshire-downs and South-downs.

Mr James Cotton, of Rockford, was the successful exhibitor of Shropshire-downs. He showed a very superior flock of sheep and took all the premiums in his classes. His two year old ram, "Champion," winner of first prize in the "two year old" lot; also of first prize in lot "for any age," and first prize for "best ram and five ewes," is a very superior animal, and deserving of special mention, possessing a heavy, well set fleece, a good neck and breast, (showing good constitution), broad, straight back, and well rounded body on short legs. His flock of ewes were also a very superior lot of sheep, showing strong constitutions, heavy, compact fleeces, and a disposition to fatten early. I predict a prosperous future for this breed, whose heavy fleeces, early maturity, and good mutton will give them popularity.

Messrs. Potts & Son, of Jacksonville, were successful as exhibitors of Southdowns. They showed a very superior flock of neat, handsome sheep. Their recent importations are deserving of special mention. The yearling ram, while not so stylish as some, possesses in a great degree all the useful points of this most excellent breed of sheep; is unusually large for his age, with a compact fleece of fine wool, and great constitution. Their yearling ewes could hardly be excelled in any country, possessing fine style, short heads, strong necks, broad level backs, heavy, massive thighs, which insure a good leg of mutton, are very large for their age, and richly merited every premium they received.

Before closing this report, I take the liberty of calling the attention of the officers of the Fair to the fact that the sheep department was so unfavorably located that many of the visitors failed to see and appreciate the exhibit in this important and growing branch of husbandry.

Respectfully,

R. ROWETT,
Carlinville, Macoupin county, Ill.

F—REPORTS OF COMMITTEE ON FINE WOOLS.

Hon. D. W. Vittum, Jr., Superintendent Class C, Sheep:

Your committee, to pass upon animals shown in Lots 47 and 49, believing that Fairs should be educators, and that the decisions and reports of awarding committees may be made valuable to breeders, took for his guidance the more prominent points of the American Merino Sheep. First—Constitution. Second—The quantity and quality of scoured wool obtainable from the sheep.

CONSTITUTION—Your committee considers this the most important, in fact, the underlying principle, of nearly all that tends toward perfection in animals, and is of opinion that it should be the first requisite with all breeders. There has been and still is a tendency among the breeders of Fine Wool sheep toward what may be termed *style*, the stylish sheep being nearly covered with wrinkles. It is doubtless contrary to the best judgment of all intelligent breeders, but is done to supply a supposed or real demand for such animals. If this *style* could be indulged in without actual injury to the animals and consequent loss to their owners, it might be more excusable; but it is a well-known fact that an excess of wrinkles lowers the constitutional vigor, which ought to be enough to condemn it. But it also lowers the grade of wool; the wrinkles producing a coarser wool than the remainder of the body, and when there are many of them the wool-sorter cannot afford the time necessary for picking the finer wool from between the folds, and consequently throws the entire fleece into the grade produced on the folds.

Next in importance is the amount of scoured wool grown upon each animal, the fleece that will make the most cloth being the most valuable. The difference between wool and oil cannot be too carefully considered, and to this end experts should closely scrutinize each animal presented. The number of pounds of *something* cut from a sheep, has too generally determined its value, while in fact a great many pounds may indicate very little wool. The improvement in this particular during the last few years has been quite marked, and breeding promises to become, in the near future, what it should be in this respect.

Your committee notices a tendency toward coarseness of fibre, induced, probably, by a desire to improve the constitution and increase the number of pounds of scoured wool. The desire is commendable, but the true line of improvement is one in which the distinctive characteristics of the wool of the American Merino are not lost sight of.

Respectfully submitted,

F. FASSETT,
Springfield, Illinois.

Hon. D. W. Vittum, Jr., Superintendent Class C, Sheep:

In making my report of Sweepstakes awards, I will state that your show of Merino sheep was good. While I would not feel justified in saying that the best animals reached the highest points of excellence to be found in the United States, yet the number on exhibition was more than we generally see even at a State Fair, and in two of the rings, at least, the competition was close. Aside from giving my judgment, and placing Sweepstakes awards I spent the week in such work as I thought would benefit not only your association but your exhibitors. One result of this work was the partial preparation of a standard, or points of excellence, for American Merinos. This standard I used in awarding Sweepstakes prizes. I believe this is the first time sheep have been judged in the United States by actual scaling of the animals in the rings, and your Board have the honor of inaugurating this advance step, the principals of which I have no doubt, a large majority of the sheep breeders of the whole country will endorse. This system of placing awards will go far toward preventing the errors of judgment, so much complained of under the old system. Each point coming under the eye and before the judgment, singly, its character being fully described and its relative value in a perfect animal being numerically fixed, the danger of over estimating or of undervaluing it, is certainly much less, and I hope this Board will encourage this plan of making awards on all breeds of sheep. If this is done, allow me to suggest that a blank book, for the purpose of recording the scale of points of each animal, as it is handed in to the Superintendent, should be kept. Thus, it will remain a record for preservation, or publication, and, at least, may be a benefit to the breeders, who may learn wherein their animals fall short or excel. It will also be a record of the judgment, on specific and particular points, of whomsoever you may appoint to that work. My reasons for my awards are distinctly set forth by the cards, with my figures given on each point of the competing animals, handed in to the Superintendent.

As I consider myself your servant for the week, you being entitled to what I may know as well as other services, I can not close without one more suggestion, and that is with regard to the location of your pens, and your manner of exhibiting. Taking it for granted that you wish to do the greatest good and please the greatest number possible, I ask: Would this object not be more readily and effectually accomplished by placing the pens in a more conspicuous place? Sheep are quiet, cleanly, do not require very large space, and thousands are interested in seeing them, while their owners delight in their exhibition.

In looking over the grounds I thought how easily the sheep buildings might have been constructed immediately in the rear of your amphitheatre, with a passage way underneath leading through inside of the track in front, where the rings could be led out to receive awards. Some of these rings at your exhibition this year would have, and *should have*, received the applause of thousands of pleased and interested spectators if they had been where they could see them. Besides, it would greatly encourage breeders, whose interests your Association no doubt aims to foster, to prepare their exhibits in good shape for show and to bring them out.

Respectfully submitted,

SAMUEL ARCHER,
Kansas City, Mo.

CLASS D—SWINE.

REPORT OF WM. VOORHIES, *Superintendent.**To the State Board of Agriculture:*

The department which I have the honor to represent was well patronized by breeders from various States. The exhibition was large, and the quality of stock all that could be desired. It was generally observed that, although there were not so many hogs on exhibition as the previous year, the quality was fully up to the standard.

The Berkshire and Poland China hogs were most numerous, occupying at least three-fourths of the space allotted to this department. We had also a creditable show of Chester Whites, Essex, Yorkshires and Durocs. For the latter we had failed to provide a Lot, and I do not deem it advisable to open a new Lot for animals that are not well established and recognized as distinct breeds.

The expert committee seemed to give general satisfaction and I would recommend its continuance in the future.

The following table will show the extent of the exhibition in the various lots:

Lot	Breed, etc.	2 years old or over..	1 and under two years ..	Six months and under 1 yr.	Under six months..	Total entries.....	Amt. premiums offered..	Amt. premiums paid.....	Amt. premiums
51	Berkshire boars	7	8	9	11	35	\$100		\$100
51	" sows	13	18	15	19	65	100		100
51	" sow and pigs					6	30		30
51	" boar and 4 sows					8	25		25
52	" sweepstakes boars					18	20		20
52	" sows					26	20		20
	Total	20	26	24	30	153	295		295
53	Chester White boars	1	5	6	10	22	100		90
53	" sows	6	8	6	10	29	108		100
53	" sow and pigs					3	30		30
53	" boar and 4 sows					6	25		25
54	" sweepstakes boars					6	20		20
54	" sows					9	20		20
	Total	7	13	11	20	74	295		235
55	Poland China boars	8	4	10	32	54	110		110
55	" sows	12	14	10	34	70	100		100
55	" sow and pigs					3	30		30
55	" boar and 4 sows					6	25		25
56	" sweepstakes boars					25	20		20
56	" sows					21	20		20
	Total	20	18	20	66	182	305		305
	Suffolk, small Yorkshire, short-faced Lancashire								
57	" boars	4	5	3	6	18	100		100
57	" sows	4	8	3	7	22	100		100
57	" sow and pigs					3	30		30
57	" boar and 4 sows					4	25		25
57	" sweepstakes boars					9	20		20
58	" sows					10	20		20
	Total	8	13	6	13	66	295		295
59	Essex boars	2	2	2	5	11	100		100
59	" sows	2	3	2	5	12	100		100
59	" sow and pigs					2	30		30
60	" boar and 4 sows					2	25		25
60	" sweepstakes boars					4	20		20
60	" sows					5	20		20
	Total	4	5	4	10	36	295		295
	Grand total	59	75	65	139	516	\$1,485		\$1,475

Respectfully submitted,

WM. VOORHIES, JR.,
Superintendent Class D, Swine.

CLASS E—POULTRY.

REPORT OF H. D. EMERY, *Superintendent.*

To the State Board of Agriculture:

As Superintendent of Class E. Poultry, at the Fair of 1879, I beg leave to report:

That on arriving at the grounds, on Monday, I found the construction of the coops to be such that exhibitors refused to show in them; in fact they could not do so with safety to their stock. The difficulty was remedied, so far as possible, by removing a portion of them and preparing tables for the reception of such coops as the exhibitors had themselves provided. The result was, that the uniformity of style sought to be obtained by the stationary coops was in a great measure lost.

As it seems impracticable to rebuild the coops as they should be for the next Fair, I would recommend the removal of all the coops except the largest ones, leaving the tables of uniform height, for the reception of coops provided by exhibitors.

Notwithstanding these drawbacks the exhibition proved very attractive and drew a large share of attention. The showing of pairs proved more satisfactory, in general, than single birds. The quality of poultry shown was superior, with few exceptions. The display of pet stock, such as pigeons, rabbits, ferrets, &c., was large and fine, affording an attractive feature of the show.

The following table shows the number of entries, the amount of premiums offered and paid:

Lot	Breed.	Number of entries.	Amount premium offered.	Amount premium paid.
61	Asiatic.....	93	\$70	\$57
62	Dorking, Dominique, Plymouth Rock.....	28	50	23
63	Spanish.....	38	50	35
64	Hamburgs.....	21	60	84
65	Polish.....	29	50	32
66	French.....	7	30	10
67	Game.....	28	120	35
68	Bantams.....	50	90	58
69	Miscellaneous.....	2	40	5
70	Guineas.....	17	20	20
71	Turkeys.....	36	72	55
72	Ducks.....	47	45	38
73	Geese.....	18	30	24
74	Rabbits.....	20	35	35
75	Ferrets.....	8	10	8
76	Displays.....	12	40	40
Total.....		454	\$812	\$509

Respectfully submitted,

H. D. EMERY,
Superintendent Class E.

CLASS F—MECHANIC ARTS—SECTION 1.

REPORT OF JOHN M. EPLER, *Superintendent.*

To the State Board of Agriculture:

Your Superintendent of Class F, Section 1, would respectfully report:

That the exhibition in his department was a success. The many displays on exhibition necessitated the crowding of the Hall, which occasioned inconvenience to exhibitor, and spoiled, to some extent, the effect of the displays. Want of space compelled many articles to be placed outside of the hall, and to obviate this I would recommend the erection of a building suitable for the exhibition of churns, butter-workers, washing machines, bee stands, etc.

The number of entries in this department, amount of premiums offered and paid, are as follows:

Lot	Articles.	Entries	Silver Medal.		Diploma.		Cash premium.	
			Offered.	Awarded	Offered..	Awarded	Offered..	Awarded
77	Stoves, casting, etc.....	10	9	3	7	1	\$35	\$30
78	Household furniture.....	37	7	3	1	1	30	30
79	Manufactures	46	10	5	21	1	10	10
80	Sewing and Knitting Machines, etc.	3	.....	.....	.....	.....	.....	.....
	Total	96	26	10	29	3	\$75	\$70

Respectfully submitted,

JOHN M. EPLER,
Superintendent Class F, Section 1.

CLASS F—MECHANIC ARTS—SECTION 2.

REPORT OF W. M. SMITH, *Superintendent.*

To the State Board of Agriculture:

The exhibit of agricultural machinery at the last Fair has never been surpassed in quantity and quality. There was much complaint of want of sufficient steam-power to run the machinery on exhibition.

Exhibitors made special efforts to add to the attractions of the Fair by the construction of elegant and commodious buildings.

The following list of implements, for which no premiums were offered, is recommended for publication, with the names of exhibitors.

Lot	Articles.	Entries	Silver medal.		Diploma.		Cash premium	
			Offered..	Awarded	Offered..	Awarded	Offered..	Awarded
81	Engines, machinery, etc.....	57	26	10	7	5	\$50	\$50
82	Light machines.....	.....	15	.....	.....	.....	.....	.....
83	Implements, vehicles, etc.....	80	11	5	6	6	55	55
84	Farm machinery.....	.....	.....	.....	.....	.....	.....	.....
	Total.....	137	52	15	13	11	\$105	\$105

MACHINERY ON EXHIBITION.

Threshers—

Rinehart, Ballard & Co., Springfield, Ohio; 2 entries.
D. C. Anderson, Huntington, Ind.
H. A. Pitts & Son Manufacturing Company, Chicago.
G. A. Van Duyn & Co., Springfield.
C. Aultman & Co., Canton, Ohio.
Russell & Co., Massillon, Ohio.
C. R. Post, Springfield.

Hedge Trimmers—

Hudson & House; Springfield, 2 entries.
T. V. Nichols, Olena.

Reapers—

Walter A. Wood, St. Louis, Mo.; 2 entries.
Wayne Agricultural Company, Richmond, Ind.
Champion Machine Co., Springfield, Ohio.

Mowers—

Walter A. Wood, St. Louis, Mo.
G. A. Van Duyn, Springfield.
C. Aultman & Co., Canton, Ohio.
Champion Machine Co., Springfield, Ohio.
Hudson & House, Springfield.

Combined Reaper and Mower—

Walter A. Wood, St. Louis, Mo.
C. H. & L. J. McCormick, Chicago.
D. M. Osborn & Co., Auburn, N. Y.; 3 entries.
C. Aultman & Co., Canton, Ohio; 2 entries.
Champion Machine Co., Springfield, Ohio.
Sandwich Manufacturing Co., Sandwich.

Grain Binders—

Walter A. Wood, St. Louis, Mo.; 2 entries.
D. M. Osborn, Auburn, N. Y.
C. Aultman & Co., Canton, Ohio.
S. H. Richardson, Springfield.

Horse Rakes—

J. H. Thomas, Springfield, Ohio.
G. A. Van Duyn, Springfield; 2 entries.
C. R. Post, Springfield.

Cider Mills—

C. R. Post, Springfield.

Corn and Cob Mills—

J. A. Field, Son & Co., St. Louis, Mo.
C. R. Post, Springfield.

Wind Mills—

Stover Wind Engine Co., Freeport
Sandwich Enterprise Company, Sandwich.
G. A. Van Duyn, Springfield.
Clark & Co., Somonauk
D. W. Whitmer, Springfield.
Challenge Mill Co., Batavia.
Powell & Douglas, Waukegan, Wis.

Corn Stalk Cutter—

C. R. Post, Springfield.
Deere, Mansure & Co., Moline.
W. W. Fuller, Elmira.
Kingman & Co., Peoria; 2 entries.
Geo. W. Brown, Galesburg.
Chicago Scraper and Ditcher Co., Chicago.
E. K. Hays, Kewanee.

Power Corn Sheller—

Sandwich Manufacturing Co., Sandwich; 2 entries.
Kingman & Co., Peoria; 2 entries.
G. A. Van Duyn, Springfield.
King, Hamilton & Co., Ottawa.

Walking Plows—

Parlen & Orendorff, Canton; 13 entries.
Wier Plow Co., Monmouth.
C. R. Post, Springfield.
Kingman & Co., Peoria; 2 entries.
J. I. Case Plow Co., Racine, Wis.; 16 entries.
Briggs & Enoch, Rockford.

Riding Plows—

Parlen & Orendorff, Canton.
Briggs & Enoch, Rockford.
Wier Plow Co., Monmouth.
Geo. W. Brown, Galesburg.
C. R. Post, Springfield.
Kingman & Co., Peoria; 2 entries.

Harrows—

J. J. Budlong & Co., Aurora; 3 entries.
Parlen & Orendorff, Canton.
C. R. Post, Springfield.
Kingman & Co., Peoria; 2 entries.

Cultivators—

Sandwich Enterprise Co., Sandwich.
 Chicago Scraper and Ditcher Co., Chicago.
 H. H. Perkins, Kewanee.
 Parlen & Orendorf, Canton; 2 entries.
 Kingman & Co., Peoria; 4 entries.
 Wier Plow Co., Monmouth.
 C. R. Post, Springfield.
 King, Hamilton & Co., Ottawa; 2 entries.
 Briggs & Enoch, Rockford.

Corn Planters—

Springfield Manufacturing Co., Springfield; 2 entries
 J. J. Budlong & Co., Aurora.
 Beadle & Kelley, Troy, Ohio; 2 entries.
 C. R. Post, Springfield.
 Deere, Mansure & Co., Moline; 3 entries
 Kingman & Co., Peoria; 2 entries.
 Briggs & Enoch, Rockford.
 George W. Brown, Galesburg.
 J. K. Matlock, Richmond, Ind.

Check Rowers—

Jos Rothschild, Nilwood.
 Frank P. Murphy, Maroa.
 Hayworth & Sons, Decatur.
 G. A. VanDyyn & Co., Springfield.
 Kingman & Co., Peoria; 2 entries.
 A. F. Hall, Onarga.
 Deere, Mansure & Co., Moline.

Grain Drills—

G. A. VanDyyn, Springfield.
 D. E. McSherry & Co., Dayton, Ohio.
 Esier and Ropiguet Manufacturing Company, Belvidere.
 Wayne Agricultural Company, Richmond, Ind.
 C. R. Post, Springfield.
 J. B. and H. Rentchler, Belleville.
 Mechanicsburg Machine Company, Mechanicsburg, Ohio.

Seed Sowers—

C. R. Post, Springfield.
 Chicago Scraper and Ditcher Company, Chicago.
 Wayne Agricultural Co., Richmond, Ind.

Rollers—

Hartman Sells, New Berlin.
 Chicago Scraper and Ditcher Co., Chicago.

Ditching Machine—

G. W. Williams, Eau Claire, Wis.

Fanning Mill—

C. R. Post, Springfield.
 A. P. Dickey, Racine, Wis.; 3 entries.
 Wm. Bills, Decatur.
 Johnson & Field, Racine, Wis.; 2 entries.
 Cress Bro's, Hillsboro; 2 entries.

Hand Corn Sheller—

C. R. Post, Springfield.
 Kingman & Co., Peoria; 2 entries.

Hay Loader—

W. W. Dean, Macon.

Respectfully submitted,

W. M. SMITH,
 Superintendent Class F., S

CLASS G—FARM PRODUCTS.

REPORT OF SAMUEL DOUGLAS, *Superintendent.*

To the State Board of Agriculture:

The display of farm products at the last Fair was large and creditable, as may be seen by examination of the following table, giving number of entries, offerings and awards. The large increase of entries in this class crowded the very large space allotted, and while the room was more than heretofore given, it was crowded to repletion. In future specifications I would suggest that more space be assigned to this class.

Lot	Articles.	Entries.....	Diploma.		Cash premium.	
			Offered..	Awarded	Offered..	Awarded
85	Grains and seeds.....	162	1	.....	\$235	\$188
86	Vegetables	113	.....	.....	172	155
87	Butter, cheese, etc	65	5	1	143	138
88	Bread, cakes, etc	315	1	.....	161	150
Total.....		655	7	1	\$711	\$626

Respectfully submitted,

S. DOUGLAS.
Superintendent Class G.

CLASS H—HORTICULTURE—SECTION 1.

REPORT OF GEORGE S. HASKELL, *Superintendent.*

To the State Board of Agriculture:

I have the honor to report that the exhibition of trees, flowers and plants at the Fair of 1899 was very full in number, and the quality much better than in any previous year.

This department, for the first time, had sufficient space for displaying to the best advantage the extensive exhibit, and permitted the exhibitors to arrange their collections in the most artistic manner, which added greatly to the attractions of Floral Hall.

A large number of the exhibits deserve special mention, did space permit, and in calling attention to the very complete and creditable collection of trees, etc., exhibited by J. B. Spaulding & Co., of Riverton, there is no desire to detract the least from many other collections that reflect great credit upon the exhibitors. Mr. Spaulding also furnished the evergreens for decorating Floral Hall, and ornamented the grounds adjacent thereto with a complete collection of evergreens, which were greatly admired by all, and gave evidence of his superior skill in growing nursery stock.

The number of entries was larger than in any previous year, and in point of artistic arrangement could scarcely be improved upon.

The following table gives detailed information as to the number of entries, premiums offered and paid in the several lots.

Lot	Articles.	Entries.....	Silver Medal.		Diploma.		Cash premium.	
			Offered..	Awarded	Offered..	Awarded	Offered..	Awarded
89	Trees, flowers and plants (professional).....	63	2	.....	3	2	\$199	\$178
90	Cut flowers (Professional)	107	.....	.....	4	3	257	234
91	Flowers and plants (Amateurs).....	37	.....	.....	.....	.....	88	68
92	Cut flowers (Amateurs).....	75	.....	.....	.....	.....	131	81
Total.....		282	2	.....	7	5	\$675	\$559

Respectfully submitted,

GEO. S. HASKELL.
Superintendent Class H, Section 1.

CLASS H—HORTICULTURE—SECTION 2.

REPORT OF B. PULLEN, *Superintendent.**To the State Board of Agriculture:*

I have, to report for my department, that everything was very satisfactory. The exhibition was very large and the quality of the exhibits exceptionally fine. I doubt, if in the entire history of this society, the exhibition in this department has been equaled—certainly, it has never been excelled. I mention as worthy of note, that, of apples there were displayed between six and seven hundred distinct named varieties, with about twenty-five others that could not be named.

The Warsaw, Champaign and Centralia Horticultural Society exhibits, I have never seen equaled, and the gentlemen in charge of them deserve great credit for their efforts in securing such large and valuable collections from their several districts. I note also that in Lots 94, 96, 97 and 98, Jellies, Canned Fruits, Preserved Fruits, Pickles, etc., exhibitors are adopting improved methods, thereby obtaining great excellence in this class of articles, all of which I believe to be the result of the wholesome competition afforded by our annual Fairs.

Accommodations for this department were very nearly all that could be desired, and aided materially in its success. Awarding committees gave general satisfaction, their action having been approved by exhibitors.

The following summary gives entries, offerings and awards in the several lots.

Lot	Articles.	Entries.....	Silver Medal.		Diploma.		Cash premiums	
			Offered.	Awarded	Offered.	Awarded	Offered.	Awarded
93	Home-grown fruits (Professional)	43	.....	.....	.....	.....	\$308	\$280
94	Home-grown fruits (Amateurs)	56	.....	.....	.....	.....	102	95
95	Jellies	263	.....	.....	.....	.....	36	36
96	Canned fruits	189	.....	.....	.....	.....	60	60
97	Preserved fruits, jams, etc.	210	1	.....	1	.....	39	39
98	Pickles, Catsups, etc.	122	1	.....	2	.....	69	39
	Total	833	2	.....	3	.....	\$614	\$549

Respectfully submitted,

B. PULLEN.
Superintendent Class H, Section 2.

CLASS I—FINE ARTS.

REPORT OF JOHN P. REYNOLDS, *Superintendent.**To the State Board of Agriculture:*

The Superintendent of this class, begs to report that the exhibit, as a whole differed very little from its predecessors, and was as they have generally been, barely respectable, and not of very high character if critically judged. Nevertheless there were quite a number of examples of decided merit. It is fair to say that there is a decided and justifiable reluctance among artists and other owners of valuable objects of art, to exhibiting them in temporary structures like the ordinary halls of our Fair Grounds, where they must necessarily be more or less exposed to injury from visitors as well as from the elements. With this explanation I do not hesitate to say that the exhibition in this department was as good as could have been expected.

Lot	Articles	Entries	Silver medal.		Diploma.		Cash premium.	
			Offered.	Awarded	Offered..	Awarded	Offered.	Awarded
99	Fine arts.....	120	10	10	17	7	\$45	\$45
100	Musical instruments							
101	Printing, engraving, etc	43	4	4	15	6	5	5
102	Wax, feather, hair work, etc ...	51	2	2	1	.....	46	42
	Total	214	16	16	33	13	\$96	\$92

Respectfully submitted.

JOHN P. REYNOLDS,
Superintendent Class I.

CLASS K—TEXTILE FABRICS.

REPORT OF E. H. BISHOP, *Superintendent.**To the State Board of Agriculture:*

The exhibit in this department was full and the attractions numerous. The remarkable skill and taste manifested in the ornamental and fancy work shown, has never been surpassed at a previous Fair, while the hand and plain sewing exhibited gave evidence of superior workmanship.

The increase of nearly fifty per cent in the number of entries over the large exhibit of the previous year gives evidence of the enterprising spirit of the ladies of Central Illinois, who were the principal contributors to the elegant and extensive exhibit of nearly one thousand beautiful and useful articles shown in this department.

The following table gives the number of entries in each lot, as well as the amount of premiums offered and paid at the last Fair:

Lot	Articles.	Entries	Diploma.		Cash premium.	
			Offered..	Awarded	Offered..	Awarded
103	Mill fabrics, etc	3	13	2		
104	Household fabrics	129			\$110	\$85
105	Hand sewing	71			43	43
106	Ornamental needle work	273			168	161
107	Fancy work	197			83	75
108	Needle-work by girl under 13 years of age	185			84	84
109	Quilts and needle-work	157			69	69
	Total	995	13	2	\$557	\$517

Respectfully submitted,

E. H. BISHOP,
Superintendent Class K.

CLASS L—NATURAL HISTORY.

REPORT OF JOHN P. REYNOLDS, *Superintendent**To the State Board of Agriculture:*

The Superintendent of this department begs leave to report that the circumstances and conditions under which it has always been necessary to place the exhibits in this department have almost uniformly prevented very large or interesting displays. The specimens are frail, difficult to transport without damage, and cannot be shown except in cases which are expensive, and must be provided by exhibitors at their own expense. Occasionally as at the last Fair, some one or more individuals, without previous experience will venture to place cabinets of specimens in Natural History before the public in this manner, but there is rarely any serious competition for the premiums offered in either of the two lots into which the department is divided.

I am not prepared at present to make any suggestions for the improvement of the exhibit in this department as the conditions referred to are not now under the control of this Board.

Lot	Articles.	Entries.	Premium offered.	Premium paid.
110	Taxidermy, Mineralogy and Conchology	8	\$ 160	\$180
111	Entomology, etc	11	75	75
	Total.....	19	\$235	\$205

Respectfully submitted,

JOHN P. REYNOLDS.
Superintendent Class L.

CLASS M—MILITARY.

REPORT OF D. B. GILLHAM, *Superintendent*.*To the State Board of Agriculture:*

The exhibition in Class M, though not all that might have been expected, was nevertheless, as a first attempt, entirely creditable, and doubtless one of the chief attractions of the Fair of 1879.

While six companies were entered, only three actually made an exhibit, viz: Co. B, 3d regiment, I. N. G., Rockford Rifles, Thos. G. Lawler, Capt.; Co. G, 7th regiment, I. N. G., Pekin Guards, Geo. G. Guizer, Capt.; and Co. A, 15th battalion, I. N. G., Alton Guards, H. Brueggeman, Capt.; each of which, in soldierly bearing and thorough military efficiency was a credit to the State, our Board and itself. As \$1,050 00 was appropriated, in five premiums, and only three competitors, there remains of the appropriation \$150 00, or the lowest two premiums.

The expense of the military exhibition aside from premiums, was \$54 27, which includes guarding the tents and the compensation of judges, Gen. J. N. Reece, my able and efficient assistant, declining to receive anything for his services. The drill grounds were put in proper condition by the use of a borrowed team, and a scraper on exhibition, without cost to the Board.

As superintendent of Class M, should I make any recommendation, it would be to strike the class from the premium list of 1880, as I believe the money spent in that way can be appropriated for purposes more profitable and valuable to the State.

Lot		Entries.	Premiums offered.	Premiums paid.
112	Prize drill.....	5	\$1,050	\$900

Respectfully submitted,

D. B. GILLHAM,
Superintendent Class M.

CLASS N—EDUCATION.

REPORT OF EMORY COBB, *Superintendent.**To the State Board of Agriculture:*

The display of work in this department surpassed that of the previous year, both as to quality and extent, and attracted much attention from a large number of visitors, who expressed great pleasure in the examination thereof.

The improved classification of premiums was appreciated by exhibitors, and enabled your Superintendent to secure better judgment and more satisfactory awards.

The advantages of an exhibit of this character at county fairs were impressed upon officers of those associations, and others in attendance at the Fair having an interest in educational matters. It is believed that the number of county agricultural societies giving encouragement to the public schools of the State next season, by offering premiums for school work, will be largely increased.

The educational exhibit was not displayed to the best advantage, for want of room; and it is suggested that in future specifications of the Board, a hall be provided for, which will give sufficient space for collections of interest to the student of fine and liberal arts education and natural history.

Hon. James P. Slade, State Superintendent of Public Instruction, rendered much valuable assistance, and to his earnest efforts much credit is due for the large and instructive exhibit in this department.

Lot	Exhibit.	Entries.....	Diploma.		Cash premium.	
			Offered..	Awarded	Offered.	Awarded
113	High schools...	28	4	4	\$70	\$70
114	Primary schools	40	2	2	30	30
114	Intermediate schools	28	2	2	30	30
114	Grammar schools	10	2	2	30	30
115	Rural district schools.....	36	6	6	85	85
116	Sweepstakes (open to all schools)	17	3	3	60	60
Total.....		157	19	19	\$305	\$305

Respectfully submitted,

EMORY COBB,
Superintendent Class N.

FORAGE DEPARTMENT.

REPORT OF J. L. MOORE, *Superintendent.**To the State Board of Agriculture:*

As Superintendent of Forage and Stalls at the State Fair of 1879, I would submit the following report:

Sixty-five (65) tons of hay were used; the cost of hauling and delivering the same to exhibitors at their stalls and pens was eighty dollars (\$80). The local committee of Springfield failed to furnish straw for bedding as fast as the wants of exhibitors demanded, and the whole amount provided by them being not more than half the quantity called for in the specifications, I was forced to purchase twenty-six (26) tons of straw at a cost of one hundred and four dollars (\$104 00).

There were seven hundred and twenty-six (726) stalls, one hundred and fifty (150) of which were new, but in an unfinished condition, lacking feed-boxes. Many of the old stalls were badly out of repair and I was obliged to employ carpenters to repair them and construct feed boxes after the stock was in the stalls, which was neither pleasant for exhibitors

nor profitable to the State Board. The neglect to number the stalls until after the stock was located, and then using three sets of duplicate numbers, greatly increased my labor in locating exhibitors. The supply of stalls for both horses and cattle being short, I constructed mangers, rented canvas and covered one herd of cattle. I also trespassed upon the sheep department and filled some sheep pens with horses, built seventy-eight (78) new horse stalls at a cost of \$810 38, and even then exhibitors were not all accommodated; some secured stabling in the city, while others tied their teams to fences and wagons.

I would recommend the erection of fifty (50) new stalls before the Fair of 1880.

Respectfully submitted,

J. L. MOORE,
Superintendent Forage and Stalls.

AMPHITHEATRE' AND SHOW-RING.

REPORT OF D. E. BEATY, *Marshal of the Ring.*

To the State Board of Agriculture:

The Marshal of the Ring would respectfully report that the exhibition of stock in the arena was, on the whole, acceptable to both exhibitors and visitors; the only real difficulty being, that in some of the rings shown there were so many animals that we were very much crowded. The good order which was so easily preserved was highly complimentary to our visitors.

Respectfully submitted,

D. E. BEATY,
Marshal of the Ring.

The protest of R. & J. Rowett, of Carlinville, as to the purity of breeding of thoroughbred stallion colt one and under two years, exhibited by D. DeCamp, of Edinburg, (Lot 20, entry 29 $\frac{1}{2}$), having been referred to the jury on pedigrees, the following report thereon was made:

Illinois State Board of Agriculture:

The undersigned jury on pedigrees for Class B, Horses, have carefully considered the protest entered by R. & J. Rowett against the purity of breeding of the stallion colt one and under two years awarded the second premium in the thoroughbred ring and exhibited by D. DeCamp, of Edinburg.

The jury find that the dam of said colt Jane by Woodpecker is not a thoroughbred mare, and therefore recommend that the protest be declared sustained and that the second premium be paid to the animal receiving the third award.

Respectfully submitted,

JOHN LANDRIGAN,
D. E. BEATY,
JOHN P. REYNOLDS,
Committee.

On motion of Mr. Gillham,

The protest was declared sustained and the recommendations of the jury on pedigrees adopted.

Committee to whom was referred the President's address, made the following report, which,

On motion of Mr. Vittum,

Was received, adopted and ordered to be placed on record.

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

To the State Board of Agriculture:

Your committee, to whom was referred the President's address, respectfully report that in their opinion the points therein discussed are of much practical importance and the views expressed are such in general as deserve the approval of the Board.

On the subject of elementary education relating to practical agriculture and the introduction of a suitable text book into our public schools, with a view to induce and prepare

pupils to pursue a complete course of study in the State Industrial University, we desire to suggest that the President, who resides in the immediate vicinity of our State University, be requested to bring the matter of preparing such a text book, and the whole question presented to the attention of the Regent of that institution, and communicate the results of such conference to a future meeting of this Board. In regard to the recommendations that a committee be appointed to consider and report upon the question of permanently locating the annual fairs at one or more points, your committee quite agree that the time has arrived for a full discussion of that subject and that such appointment of a committee is desirable. The enterprise inaugurated by the Board in 1878, of holding an annual exhibition of fat stock, is properly commended, and some of the reasons for its continuance in the future briefly and clearly stated. Your committee most heartily and without reserve endorse the views of the President on this subject, and at the same time beg to express the opinion that with careful management and a prudent regard for economy, all the substantial benefits of such exhibitions can be realized and that the enterprise can and should be made self-sustaining hereafter. The demonstrated importance of these exhibitions of fat stock are so great, that in the opinion of your committee no reasonable effort ought to be wanting to firmly establish them and to insure their regular recurrence by rendering them financially successful in themselves without taxing the funds of the department. In relation to the employment of experts as members of the awarding committees, your committee regard the President's views favorably, and especially as referring to the committees for Fat Stock Show. It is, however, believed that in the light of experience, the expenses of such service may be largely reduced without impairing its value to the public, and we would recommend that the regulations relating to such appointments be most carefully considered, and if possible, improved.

Respectfully submitted,

JOHN P. REYNOLDS,
D. E. BEATY,
SAMUEL DYSART.

The following resolution, introduced by Mr. Reynolds, was,
On motion of Mr. Gillham,
Adopted:

Resolved. That all contracts for material and labor to be used or employed during the Fair shall be made only by the Superintendent of Grounds, except as may be otherwise provided for in the rules or by-laws; and all such contracts and orders for material and labor shall be noted in an order book kept by said Superintendent for that purpose. Requisitions for such labor or material to be made in writing, upon the Superintendent of Grounds only.

The following majority and minority report were received from the committee to whom was referred the petition of the Women's Christian Temperance Union of Springfield:

MAJORITY REPORT.

To the Illinois State Board of Agriculture:

Your committee to whom was referred the petition of the Women's Christian Temperance Union of Springfield would report that the matter has been duly considered, and that a majority of the committee recommend that the State Board of Agriculture give no permit for, and strictly prohibit the sale of wine, beer or intoxicating liquor of any kind, on the Fair grounds in 1880.

W. M. SMITH,
J. L. MOORE.

MINORITY REPORT.

To the Illinois State Board of Agriculture:

The undersigned would respectfully recommend that permits be granted for the sale of wine and beer on the State Fair Grounds during the Fair of 1880.

For without such permits liquor will be clandestinely taken on the ground and sold and drank and without restrictions the Board cannot have complete control of the sale of the various beverages.

Respectfully submitted,

GEO. S. HASKELL.

Mr. Gillham moved the adoption of the minority report.

The ayes and nays being called for, the minority report was not adopted.

For minority report: Messrs. Haskell, Voorhies and Gillham.

Against the minority report: Messrs. Ellsworth, Emery, Reynolds, Moore, Dysart, Snoad, Vittum, Douglas, Beaty, Epler, Smith, Bishop, Pullen, Washburne, Landrigan and Scott.

On motion of Mr. Smith.
 The majority report was then adopted,
 On motion of Mr. Douglas,
 The Board adjourned to 8 o'clock p. m.

EVENING SESSION.

Board met pursuant to adjournment.
 President Scott in the chair.

Present: President Scott, ex-President Gillh; Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Vittum, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Washburn and Landrigan.

On motion of Mr. Smith,
 The Board went into committee of the whole for the examination of farm products, horticultural display and the entertainment of invited guests.

Mr. Smith in the chair.

At 9:30 p. m. the committee rose, reported the completion of the duties assigned and asked to be discharged.

On motion of Mr. Voorhies,
 The report was received, adopted and the committee discharged.
 The following reports were received and,

On motion of Mr. Ellsworth,
 Adopted:

REPORT OF COMMITTEE ON DISPLAY GRAINS, SEEDS, VEGETABLES, DAIRY PRODUCTS, ETC.

To the Illinois State Board of Agriculture:

Your committee, appointed to pass upon the best and largest display of grains, seeds, vegetables, dairy products, etc., exhibited by county, union or district agricultural association or club or individual, would report that the collections were large and varied and reflected credit on the exhibitors.

The premiums were awarded as follows:

First premium, Fairbury Union Agricultural Association.....	\$60 00
Second premium, Felix Carver, Springfield.....	40 00
Third premium, Wm. Stevens, Springfield.....	25 00

Respectfully submitted,

JAMES M. WASHBURN,
 WM. VOORHIES, JR.,
 JOHN M. EPLER,
 Committee.

REPORT OF COMMITTEE ON FARM DRAINAGE.

To the Illinois State Board of Agriculture:

The committee report only two entries for the premium offered for "Best tiled drained farm of not less than 20 acres.

The entries comprised the farm of Milton Hay, near Springfield, and the complete and very thorough system of drainage carried out by J. B. Spaulding in his nursery near Riverton in Sangamon county.

The entry of Mr. Spaulding could hardly be considered as coming within the provisions of the specifications for a farm, and for that reason the nursery was not considered in competition with the entry of Mr. Hay.

The premium of one hundred dollars was awarded Milton Hay, Esq., of Springfield, and as may be seen from the very complete plan presented, the drainage was thorough.

The following statement of Mr. Hay gives much interesting information concerning the system of drainage, soils, grades, etc.

Respectfully submitted,

JOHN. P. REYNOLDS,
 W. M. SMITH,
 Committee.

STATEMENT OF MILTON HAY.

To the Secretary of the Illinois State Board of Agriculture.

In making entry for premium offered for best tiled drained farm, I beg leave to submit the following diagram and statement as required.

The farm contains 264 acres, and its southwest corner is one and three-fourths miles east of the centre of the city of Springfield. The soil is "black prairie" and the subsoil yellow and blue clay.

The diagram shows the location and size of drain-tile used.

The following statement gives the elevation, to the hundredth (and in most places to the thousandth) of a foot, of the surface of the ground and of the bottom of each drain above the datum line, and the cut at every one hundred feet—and, when necessary for requisite information, at less distance; the fall of each one hundred feet of the entire system, the cost per rod for each tenth of a foot, in depth, of ditches of the several sizes; the average depth of each main, and of the laterals belonging to each; the cost per thousand tile at Springfield, the place from which hauled by wagons to the farm; the aggregate cost of hauling the tile to the ditches; the cost per thousand feet for filling ditches, and the manner of filling; all other costs incurred; and, the total cost itemized.

The fall per 100 feet of the respective lines of ditches is as follows, viz:

MAIN LINE "A" AND LATERALS.

This *main* has a fall of 36-100 of a foot per 100 feet; and the laterals belonging thereto have the same fall, except the one hundred feet next the main of the following laterals, which there have more than 36-100, as follows:

Lateral "c" has a fall of 59-100 per 100 feet.

Lateral "d" has a fall of .777; per 100 feet.

Lateral "e" has a fall of 1.591, per 100 feet.

Lateral "f" has a fall of 1.36, per 100 feet.

Lateral "g" has a fall of 1.297, per 100 feet.

Lateral "h" has a fall of .877, per 100 feet.

Lateral "i" has a fall of .98, per 100 feet.

Lateral "m" has a fall of 1.702, per 100 feet.

Lateral "a," at its upper end, has a cut of 2.846 feet (3. feet having been adopted as the *minimum*, cut except in the *dead furrows*) and runs into main on 36-100 fall; lateral "k," at its upper end, has a cut of 3.079 feet, and runs into main on 36-100 fall; the main discharges into road ditch at the bottom thereof; hence the adoption of this fall. The reason for giving the greater fall of the last 100 feet of the other laterals was to avoid the greater depth and consequent greater cost—those lines having the minimum depth (3.000 feet) determined upon and the fall, and also because such construction prevents the deposit of silt at the mouths when the main is "gorged."

LINE "B" AND LATERALS.

This *main* has 25-100 of a foot fall per 100 feet for the upper 700 feet, and 44-100 per 100 feet for the balance of the line.

The laterals thereof have the fall of 25-100 per 100 feet, except the following, viz:

Lateral "p," which has 3-10 per 100 feet.

Lateral "q," which has 4-10 per 100 feet.

Lateral "s," which has .65 per 100 feet for upper 400 feet.

And the lower 100 feet of the following, to-wit:

Lateral "f," which has 5-10 per 100 feet.

Lateral "g," which has 1.879 per 100 feet.

Lateral "i," which has .75 per 100 feet.

Lateral "k," which has 1.00 per 100 feet.

Lateral "l," which has 1.75 per 100 feet.

Lateral "r," which has 2.068 per 100 feet.

The reasons for adopting these grades were that I prefer at least 25-100 per 100 feet for laterals (and think that sufficient when the work is properly done) the fall of 25-100 on my sub-main "n" decided the depth of *main* at the mouth of "n" and also the depth of main at mouth of lateral "a," also the depth of main at 700; and the fall of 44-100 from this latter point through the mouth of "n" gives the proper outlet for the main; the laterals "b," "c," "d," "e," "h" and "o" discharge on the fall of 25-100 hence the almost absolute necessity for the adoption of grades given thereto.

MAIN LINE "C" AND LATERALS.

This MAIN, for the lower 2,200 feet has a fall of 15-100 for 100 feet, and for the upper 400 feet a fall of 25-100 per 100 feet.

The lateral "b" determines the depth of the *main* at its mouth, and the balance of the main is given the small fall of 15-100 per 100 feet to avoid any heavier cutting; such fall being sufficient when properly graded and the size of tile adequately increased.

The laterals of "C" have the fall of 25-100 per 100 feet, except the 100 feet next the main, which have, as follows, viz:

Lateral "c" has 11.48 per 100 feet.

Lateral "d" has 0.448 per 100 feet.

Lateral "e" has 1.116 per 100 feet.

Lateral "f" has 1.148 per 100 feet.

Lateral "g" has 1.769 per 100 feet.

Lateral "h" has 2.476 per 100 feet.

Lateral "i" has 2.196 per 100 feet.

Lateral "k" has 3.067 per 100 feet.

Lateral "l" has 2.142 per 100 feet.

Lateral "m" has 3.127 per 100 feet.

Lateral "n" has 3.290 per 100 feet.

The great depth of cuts for this main is occasioned by the surface being almost level as will be seen by examining the accompanying table marked "A," showing *elevation of surface* and of land, and *elevation of bottom* of tile-drains, and the cut at each stake.

LINE "D" AND LATERALS

Have a fall of .2 of a foot per 100 feet, for the greater part of line, .25 of a foot per 100 ft. for a portion, .325 for 200 ft. and 1.90 per 100 ft. for the lower 230 ft., all of which is shown in the table "A."

LINE "E" AND LATERALS.

Main has .2 per 100 feet for the greater portion of line; .28 per 100 ft. for lateral "c," .25 per 100 for laterals "d" and "e," and only .25 of a foot in 249 ft. in part of the main line.

Table marked "C" has a portion of 8-in. inch tile on main "B," (903 feet) marked "average cut 4.08 ft.," which is for the part running through the land of S. H. Jones.

Of line "C," 526 feet has an average cut of about two feet, which was laid without engineering. The balance of the tile of lines belonging to main "C" has the average depth denoted in table "C."

COST OF TILE.

The tile delivered on the railroad track in Springfield, cost as follows, to-wit:

The 2½, 3, 4, 5, 6 and 7 inch for lines A, B and C, \$12 00, \$15 50, \$24 00, \$34 00, \$47 00 and \$75 00 per 1,000 tile; the 8 inch for the line "A," \$83 00, and for the line "B," \$95 00 per 1,000; for lines D and E the 3, 4 and 6 inch cost \$20 00, \$30 00 and \$55 60 per 1,000 —(the latter bought in 1877 and the former in 1878); the "connections" cost \$20 00, and the hauling of all from railroad to the ditches cost \$150 00.

The digging and grading of ditches, distributing the tile, laying the same, and covering them sufficiently to prevent displacement by the plowing-in, cost as follows, viz:

For the 2½, 3, 4 and 5 inch tile, one cent per rod for each tenth of a foot in depth, i. e. if average depth is 3.81 feet, the cost is 38.1 cents per rod (see table "B," line "C"); for the 6, 7 and 8 inch tile, one cent and a quarter per rod for each tenth of a foot in depth, i. e. if average depth is 6.2675 feet, the cost is 78.31 cents per rod (see table B, line "C").

Table "A" shows what it purports; and Table "B" gives total itemized cost of drainage.

The following table gives the cost of tile delivered on the track, for each system of draining through the same out-let, and the cost of labor and other expenses compared:

Main and Laterals.	Cost of tile on track.	Cost of digging and filling.	Total cost.
Line A	\$245 33	\$219 45	\$464 78
" B	413 39	409 45	822 84
" C	219 93	239 88	459 81
" D	172 63	112 64	285 27
" E	142 01	134 82	276 83
Connections and hauling	170 00	.....	170 00
Engineering .....	.....	150 00	150 00
Total.	\$1,363 29	\$1,286 24	\$2,649 53

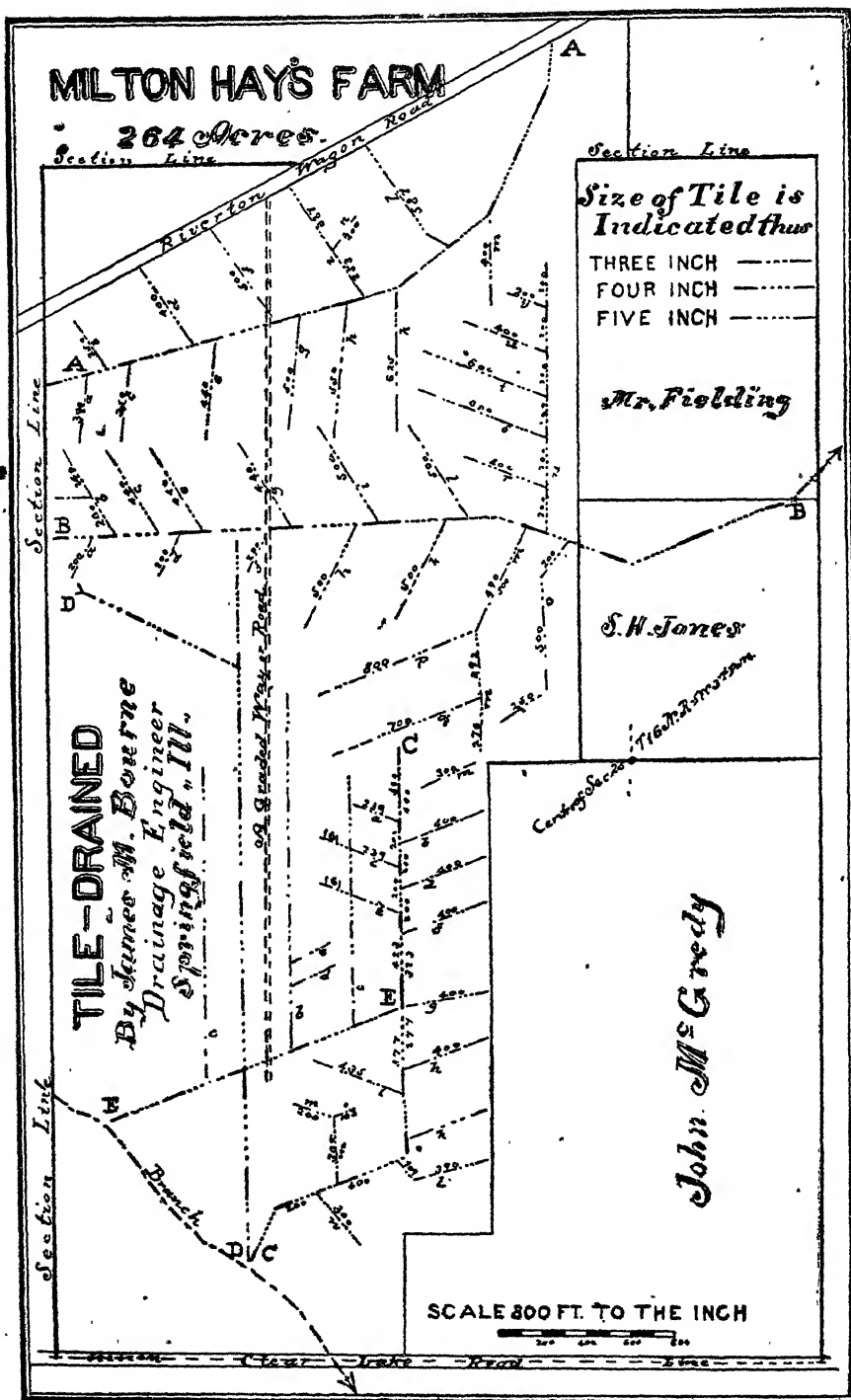


Table "A" showing Location of lines, Elevation of surface of ground and bottom of Tile-drain cut at each stake.

Line "A."	Distance in feet.	Elevation of surface above datum	Elevation of bottom of tile.	Cut in feet.
N 69° 15' E.....	00	99.829	96.107	3.722
	25	99.027	96.017	3.010
	100	98.914	95.747	3.167
	200	98.766	95.387	3.379
	300	97.044	95.027	4.017
	400	99.671	94.667	5.004
	500	99.295	94.307	4.988
	600	98.610	93.947	4.663
	700	98.482	93.587	4.895
	800	97.851	93.227	4.720
	900	97.324	92.867	4.457
	1,000	96.709	92.507	4.203
	1,100	96.759	92.147	4.612
	1,200	96.450	91.787	4.663
	1,300	96.331	91.427	4.904
	1,400	96.108	91.067	5.041
	1,500	95.851	90.707	5.144
	1,600	95.088	90.347	4.757
	1,646	94.978	90.138	4.795
N 48° 50' E.....	1,655	94.050	90.139	3.937
	1,700	95.161	89.967	5.174
	1,800	93.246	89.627	3.619
	1,900	92.926	89.267	3.659
	2,000	92.633	88.907	3.723
	2,100	91.988	88.547	3.391
	2,175	91.455	88.271	3.108
	2,200	91.373	88.187	3.388
	2,300	92.737	87.827	4.910
	2,400	91.374	87.467	3.907
N 20° 15' E.....	2,500	90.088	87.107	2.981
	2,600	89.295	86.747	2.548
	2,700	89.276	86.387	2.889
	2,800	88.050	86.027	2.023
	2,900	88.219	85.667	2.552
	3,000	86.660	85.307	1.293
			85.307	
Bottom of road ditch.....				

LATERALS FROM THE ABOVE LINE "A."

Main A.....	200	98.766	95.387	3.379
70° to left "a".....	100	99.328	95.747	3.581
	200	99.355	96.107	3.248
	300	99.313	96.467	2.846
Main A.....	300	99.044	95.090	3.954
Lateral "b" 70° right.....	100	98.961	95.450	3.511
	200	98.946	95.810	3.136
	250	98.918	95.990	2.928
Lateral "c"				
Main A.....	400	99.671	94.730	4.941
70° left.....	100	99.247	95.320	3.927
	200	98.680	95.680	3.000
	300	99.682	96.040	3.642
	350	100.051	96.220	3.831
Lateral "d"				
Main A.....	700	98.482	93.691	4.791
70° right.....	100	98.438	94.468	3.970
	200	98.490	94.828	3.662
	300	98.693	95.188	3.505
	400	98.448	95.518	3.000
Lateral "e"				
Main A.....	800	97.951	93.351	4.600
70° left.....	100	98.143	94.922	3.220
	200	98.351	95.382	2.969
	300	98.579	95.842	2.737
	400	99.366	96.202	3.164
	440	99.146	96.146	3.000

Table "A"—Continued.

Line "A."	Distance in feet.	Elevation of surface above datum	Elevation of bottom of tile.	Cut in feet.
Lateral "f."				
Main A.....	1, 100	96 759	92.293	4.466
70° right.....	100	96 089	93 329	2 740
	200	96 851	93.689	3 162
	300	99 859	94 049	2 810
	400	97 479	94 409	3 070
	500	97.769	94.769	3.000
Lateral "g."				
Main A.....	1, 200	96.450	91 933	4.517
70° left.....	100	96.662	93 230	3 432
	200	96 730	93.590	3 140
	300	97 393	93.950	3.443
	400	97.239	94 310	2.929
	500	97 670	94.670	3.000
Lateral "h."				
Main A.....	1, 400	96.108	91 213	4.895
70° left.....	100	96 002	92.090	3 912
	200	96 180	92.450	3 730
	300	96 434	92 810	3.624
	400	96 589	93 170	3.419
	500	96 765	93 530	3 235
	550	96.880	93.710	3.180
Lateral "i."				
Main A.....	1, 500	95.851	90.895	4.956
70° right.....	100	95 722	91 255	4 467
	200	95.583	91 615	3.968
	300	95.578	91 975	3 603
	400	95 982	92.335	3.647
	500	96 138	92 695	3.443
	590	96.172	93.019	3.153
Lateral "j".....	253	95.686	91.806	3.866
70° right.....	100	95 285	92.166	3.119
	200	94 476	92 526	2.950
Main "A," Lateral "K."				
Main "A".....	1, 648	94.978	90.371	4.607
75 deg. 35 min. left.....	100	94 933	90 731	4.202
	200	95 283	91 091	4.192
	300	95 441	91.451	3 990
	400	95.373	91.811	3 562
	500	95.537	92 171	3 666
	600	95 844	92.531	3.313
	625	95.700	92.621	3.079
Lateral "l"				
Main "A".....	1, 941	93.423	89.329	4.094
N. 63 deg. W. "l".....	25	94.085	89.574	4.511
	108	94 894	90 373	4 521
N. 40 deg. 15 min. W.....	206	95 065	90.733	4 366
	306	95.011	91.093	3 918
	406	95.180	91.453	3.627
	506	95.180	91.813	3.367
	586	95.101	92.101	3.000
Lateral "m"				
Main "A".....	2, 175	91.485	88.486	2.999
S. 7 deg. 30 min. E.....	100	93.571	90.188	3 383
	200	94 176	90.548	3.628
	300	94 331	90.908	3.423
	400	94.268	91.268	3.000

Table "A"—Continued.

MAIN "B."

	Distance in feet.	Elevation.		Cut in feet.
		Surface.	Bottom of ditch.	
N. 81 deg. 25 min. E.	0	102 093	96 809	5.286
	25	100 000	96 746	3.254
	100	99 871	96 559	3.312
	200	100 073	96 309	3.764
	300	100.146	96 059	4.087
	400	99 809	95 809	4.100
	500	99 018	95 559	3.459
	600	98 201	95 309	2.982
	700	97 559	95 059	2.500
	800	98 441	94 819	3.622
	900	98 876	94 179	4.497
	1,000	98 976	93 739	5.237
	1,100	97 906	93 299	4.607
	1,200	97 385	92 859	4.526
	1,300	96 872	92 419	4.253
	1,400	96 053	91 979	4.074
	1,500	95 840	91 539	4.301
	1,600	95 593	91 099	4.493
	1,700	94 933	90 659	4.274
	1,800	94 964	90 219	4.745
	1,900	94 773	89 779	4.999
	2,000	94 160	89 339	4.821
	2,055	93 994	89 197	4.897
S. 77 deg. 15 min. E.	2,100	93 821	88 899	4.022
	2,200	93 543	88 459	5.034
	2,300	92 853	88 019	4.834
	2,400	92 498	87 579	4.859
	2,422	92 083	87 454	4.599
	2,500	91 809	87 139	4.670
	2,600	91 215	86 699	4.526
	2,678	90 723	86 359	4.267
N. 62 deg. 15 min. E.	2,700	90 681	86 239	4.422
	2,800	90 217	85 819	4.398
	2,900	89 697	85 379	4.318
	3,000	89 299	84 939	4.360
	3,100	88 847	84 499	4.348
	3,200	87 834	84 059	3.525
	3,300	86 872	83 619	3.253
	3,325	86 493	83 5 9	2.984
N. 71 deg. 30 min. E.	3,400	83 813	83.639	0.634

LATERALS FROM THE ABOVE LINE "B."

Lateral "a."				
Main "B"	200	100 073	96 309	3.764
60 deg. left	100	100.237	96 559	3.678
	200	99.429	96 809	2.620
Lateral "b."				
Main "B"	300	100.146	96 101	4.045
60 deg. right	100	100 380	96 351	4.029
	200	100 265	96 601	3.864
	300	100.582	96 851	3.711
	400	99.750	97.101	2.619
	440	99 829	97.201	2.628
Lateral from the above "lateral "				
Lateral "b"	200	100 265	96 601	3.664
60 deg. left	100	100 526	96 851	3.675
	150	100.580	96.976	3.604
Lateral "c."				
Main "B"	500	99 018	95 601	3.417
60 deg. right	100	99 823	95 851	3.972
	200	100 148	96 101	4.047
	300	100 028	96 351	3.677
	400	100.030	96 601	3.429
	440	99.825	96.701	3.124

Table "A"—Continued.

	Distance in feet.	Elevation.		Cut in feet.
		Surface.	Bottom of ditch.	
Lateral "d."				
Main "B".....	600	98 291	95.434	2.857
60 deg. left.....	100	98.736	95.684	3.052
	200	99.588	95.934	3.654
	300	100.023	96.184	3.839
	400	100.099	96.434	3.665
	500	99.992	96.684	3.308
Lateral "e."				
Main B.....	700	97.559	95.142	2.417
60° right.....	100	98.749	95.392	3.357
	200	100.097	95.642	4.455
	300	100.317	95.892	4.425
	400	100.331	96.142	4.189
	440	99.695	96.242	3.453
Lateral "f."				
Main B.....	1,000	98.976	93.822	5.154
60° left.....	100	98.954	94.322	4.632
	175	97.563	94.510	3.053
	200	97.995	94.572	3.423
Lateral "g."				
Main B.....	1,100	97.906	93.424	4.482
60° right.....	100	98.685	95.393	3.282
	200	98.591	95.553	3.038
	300	99.043	95.803	3.240
	400	99.616	96.053	3.563
	440	99.053	96.153	2.900
Lateral "h."				
Main B.....	1,400	96.053	92.104	3.949
60° left.....	100	96.681	92.354	4.337
	200	96.956	92.604	4.352
	300	96.910	92.854	4.066
	325	96.388	92.916	3.470
	400	96.692	93.104	3.588
	500	96.634	93.354	3.280
Lateral "i."				
Main B.....	1,500	95.840	91.664	4.176
60° right.....	100	96.025	92.414	3.611
	200	96.123	92.664	3.459
	200	96.562	92.914	3.649
	400	97.012	93.164	3.843
	470	96.318	93.339	2.979
	500	96.997	93.414	3.583
Lateral "k."				
Main B.....	1,800	94.964	90.386	4.578
60° left.....	100	95.057	91.3-6	3.671
	200	95.464	91.633	3.823
	300	95.339	91.886	3.453
	400	95.085	92.136	2.947
	453	94.101	92.281	1.820
	500	95.307	92.386	2.921
Lateral "l."				
Main B.....	1,900	94.778	89.946	4.832
N 33° 30' W.....	100	94.636	91.696	3.140
	200	95.699	91.946	3.753
	300	96.169	92.196	3.973
	400	96.477	92.446	4.081
	500	95.673	92.696	2.977
Sub-main "m."				
Main B.....	2,200	93.543	88.626	4.917
S 21° 30' W.....	100	93.737	88.876	4.861
	200	94.208	89.126	5.082
	300	94.278	89.376	4.902
	400	94.238	89.626	4.612
	500	94.273	89.876	4.397
S 6° 30' E.....	600	94.474	90.126	4.348
	700	94.317	90.376	3.941
	782	94.447	90.606	3.841
S 3° 45' E.....	900	94.419	90.876	3.543
	1,000	94.279	91.126	3.153
	1,068	94.399	91.296	3.103
S 60° W.....	1,188	94.687	91.546	3.341
	1,288	95.200	91.796	3.404
	1,388	95.170	92.046	3.124

Table "A"—Continued.

	Distance in feet.	Elevation.		Cut in feet.
		Surface.	Bottom of ditch.	
Lateral "p."				
Sub-main "m"	490	94.173	80.893	4.280
S 63° 45' W	100	94.779	90.193	4.586
	200	94.742	90.493	4.249
	300	94.967	90.793	4.174
	400	94.908	91.093	3.815
	500	95.492	91.393	4.099
	600	95.650	91.693	3.957
	700	95.632	91.993	3.639
	800	95.215	92.293	2.912
Lateral "q."				
Sub-main "m"	792	94.447	90.648	3.799
S 64° 0' W	100	94.696	91.048	3.648
	200	95.070	91.448	3.622
	300	95.253	91.848	3.410
	400	95.398	92.248	3.150
	500	95.541	92.648	2.893
	600	95.950	93.048	2.902
	700	96.096	93.448	2.648
Sub-main "n."				
Main B.	2,300	92.853	88.144	4.709
N 6° 30' W	100	93.380	88.394	4.986
	200	93.378	88.644	4.734
	300	93.535	88.894	4.641
	400	92.605	89.144	3.460
	500	92.411	89.394	3.017
	600	93.370	89.644	3.726
	700	93.726	89.894	3.832
	800	94.462	90.144	4.318
	900	94.403	90.394	4.009
	1,000	94.183	90.644	3.539
	1,100	94.057	90.894	3.163
	1,200	94.273	91.144	3.129
Lateral "r," line B.				
Sub-main "n"	200	93.378	88.748	4.630
N 76° 30' W	100	93.943	90.816	3.127
	200	93.9.6	91.066	2.80
	300	94.316	91.316	3.000
	400	95.084	91.566	3.518
Lateral "s."				
Sub-main "n"	400	92.905	89.248	3.657
N 76° 30' W	100	93.155	89.498	3.657
	200	93.458	89.748	3.710
	300	94.148	90.398	3.750
	400	94.931	91.048	3.883
	500	95.214	91.698	3.516
	600	95.374	92.348	3.026
Lateral "t."				
Sub-main "n"	600	93.370	89.706	3.664
N 76° 30' W	100	93.804	89.956	3.848
	200	93.954	90.206	3.748
	300	94.338	90.456	3.882
	400	94.538	90.706	3.832
	500	94.809	90.956	3.853
	600	95.307	91.206	4.101
Lateral "u."				
Sub-main "n"	800	94.462	90.206	4.256
N 76° 30' W	100	94.089	90.456	3.633
	200	94.746	90.706	4.040
	300	94.509	90.956	3.553
	400	94.494	91.206	3.288
Lateral "v."				
Sub-main "n"	1,000	94.183	89.665	3.518
N 76° 30' W	100	94.075	90.915	3.160
	200	94.277	91.165	3.112
Lateral "o."				
Main B.	2,400	92.438	87.871	4.567
S 32° 45' W	100	93.138	88.121	5.012
	200	93.431	88.371	5.060
	300	93.406	88.621	4.785
	400	93.431	88.871	4.560
	500	93.736	89.121	4.615
	600	93.391	89.371	4.020
	700	92.921	89.621	3.300
	800	93.107	89.871	3.236
	900	93.487	90.121	3.366
	950	93.940	90.246	3.694
S 51° 15' W				

Table "A"—Continued.

MAIN "C."

	Distance in feet.	Elevation.		Cut in feet.
		Surface.	Bottom of ditch.	
S 6° E	500	95.346	91.957	3.389
	600	95.256	91.707	3.549
	700	95.158	91.457	3.701
	800	95.136	91.207	3.929
	900	95.134	90.857	4.177
	1,000	95.492	90.807	4.685
	1,100	95.384	90.657	4.727
	1,200	95.315	90.507	4.808
	1,300	95.496	90.357	5.139
	1,400	95.646	90.207	5.439
	1,500	95.706	90.057	5.649
	1,600	95.807	89.907	5.900
	1,623	95.882	89.872	6.010
	1,700	95.880	89.757	6.123
	1,800	95.600	89.607	5.993
	1,900	95.601	89.457	6.144
	2,000	95.637	89.307	6.330
S 8° 15, E	2,100	95.597	89.157	6.360
	2,200	95.590	89.007	6.483
S 84° W	2,262	95.214	88.914	6.300
	2,300	95.007	88.857	6.150
	2,400	95.098	88.707	6.391
	2,500	95.272	88.557	6.715
	2,600	95.734	88.407	7.327
	2,700	95.614	88.257	7.357
	2,800	95.734	88.107	7.627
	2,900	95.627	87.957	7.670
S 20° 30' W.	3,000	92.920	87.807	5.113
	3,050	89.610	85.907	3.703
	3,100	87.594	84.007	3.587
Lateral "a."				
Main C	800	95.138	91.249	3.887
70° left	100	95.438	91.499	3.937
	200	95.739	91.749	3.990
	239	95.750	91.849	3.901
N 6° W	265			
Main C	900	95.134	91.000	4.134
70° right, Lateral "b."	100	95.134	91.250	3.884
	200	95.052	91.500	3.552
	300	94.852	91.750	3.102
	400	94.826	92.000	2.826
Lateral "c."				
Main C	1,000	95.492	90.800	4.692
70° left	100	95.702	92.038	3.664
	200	95.839	92.288	3.551
	300	95.728	92.538	3.190
	400	95.788	92.788	3.000
Lateral "d."				
Main C	1,100	95.384	90.740	4.644
70° right	100	95.384	91.183	4.201
	200	95.284	91.433	3.851
	300	95.157	91.683	3.464
	400	94.933	91.933	3.000
Lateral "e."				
Main C	1,200	95.315	90.590	4.725
70° left	100	95.746	91.700	4.040
	200	95.516	91.956	3.560
	300	95.611	92.206	3.405
	400	95.456	92.456	3.000
	500	96.017	92.706	3.311
Lateral "f."				
Main C	1,300	95.496	90.440	5.056
70° right	100	95.496	91.588	3.908
	200	95.747	91.838	3.909
	300	95.603	92.088	3.515
	400	95.338	92.338	3.000
Lateral "g."				
Main C	1,623	95.882	89.997	5.885
N 74° 10' E	100	96.484	91.796	4.688
	200	97.704	92.046	5.658
	300	95.574	92.296	3.296
	400	95.546	92.546	3.000

Table "A"—Continued.

	Distance in feet.	Elevation.		Cut in feet.
		Surface.	Bottom of ditch.	
Lateral "h."				
Main C	1,900	95.601	89.582	6.019
70° right	100	95.601	92.058	3.543
	173	95.308	92.240	3.068
	200	96.462	92.308	4.154
	225	95.370	92.370	3.000
	300	95.836	92.558	3.278
	400	95.960	92.808	3.152
Lateral "i."				
Main C	2,000	95.637	89.432	6.205
70° left	160	95.637	91.622	4.015
	180	91.888	91.822	3.066
	200	96.111	91.872	4.239
	300	95.795	92.122	3.673
	400	96.060	92.372	3.688
	435	95.459	92.456	3.000
Lateral "k."				
Main C	2,200	95.500	89.174	6.326
N 64° E	100	95.500	92.243	3.257
	200	95.493	92.493	3.010
	300	95.702	92.743	2.959
	400	96.136	92.993	3.143
Lateral "l."				
Main C	2,360	95.077	89.125	5.882
70° right	109	94.507	91.456	3.051
N 70° 15' E	129	94.511	91.506	3.035
	209	95.471	91.706	3.765
	309	95.501	91.950	3.545
	409	95.471	92.206	3.265
	499	95.431	92.431	3.000
Lateral "m."				
Main C	2,600	97.734	88.574	7.160
N 70° W	100	95.819	91.701	4.118
	200	96.107	91.951	4.156
	300	95.731	92.201	3.530
N 77° W	400	96.063	92.451	3.612
	500	95.768	92.701	3.067
Lateral "o."				
Lateral "m"	300	95.731	92.201	3.530
N 63° E	103	95.459	92.459	3.000
Lateral "n."				
Main C	2,700	95.614	88.424	7.190
S 46° E	100	95.426	91.714	3.712
	200	95.434	91.964	3.470
	300	95.214	92.214	3.000

MAIN "D."

N 6° W	0	86.73	84.15	2.58
	30	88.14	84.75	3.39
	230	91.42	88.66	2.76
	430	92.80	89.06	3.74
	630	94.56	89.46	5.10
	830	95.40	89.86	5.54
	1,030	95.40	90.51	4.89
	1,230	95.85	91.16	4.69
	1,440	95.85	91.56	4.29
	1,630	95.95	91.96	3.99
	1,830	95.87	92.36	3.51
	2,030	95.84	92.76	3.08
	2,230	96.90	93.16	3.74
	2,430	97.00	93.56	3.44
	2,630	98.04	93.96	4.08
	2,974	96.97	94.05	2.92
	2,830	98.55	94.36	4.19
	2,811	98.06	94.52	3.54
	3,130			
Lateral "a."				
Main D	2,630	98.04	94.09	3.95
N W	785	grade .25 per 100 feet.		
End of tile	820			

Table "A"—Continued.

MAIN "E."

	Distance in feet.	Elevation.		Cut in feet.
		Surface.	Bottom of ditch.	
S 75° 10 W.....	0	95.88	91.73	4.15
	200	95.99	91.83	4.66
	230	95.33	91.27	4.06
	300	95.35	91.13	4.22
	400	95.30	90.83	4.37
	500	95.26	90.73	4.63
	515	95.34	90.70	4.64
	784	96.40	90.48	4.92
	881	96.25	90.23	5.97
	937	95.40	90.13	5.27
	1,000	95.12	90.00	5.12
	1,200	92.22	89.60	2.62
Lateral "a."				
Main E.....	230	95.33	91.40	3.93
North.....	100	95.31	91.60	3.71
	200	96.11	91.80	4.31
	300	95.33	92.00	3.33
	400	95.47	92.20	3.27
	500	95.56	92.40	3.16
	600	95.56	.....	.....
	700	95.73	.....	.....
	800	95.63	.....	.....
	900	95.70	.....	.....
	1,000	95.70	.....	.....
	1,100	95.76	.....	.....
Lateral "b."				
Main E.....	515	95.34	90.83	4.51
North.....	100	95.61	91.03	4.58
	200	95.32	91.23	4.59
	300	95.37	91.43	4.14
	400	95.49	91.63	3.86
	500	95.26	91.83	3.43
	600	95.23	92.03	3.25
	700	94.25	92.23	3.02
	800	95.51	92.43	3.08
	900	95.64	92.63	3.01
	1,000	95.68	92.83	2.85
	1,100	95.81	93.03	2.78
	1,200	96.09	93.23	2.86
	1,400	96.30	93.63	2.67
	1,600	96.70	94.03	2.67
Lateral "c."				
Main E.....	937	95.40	90.26	5.14
North.....	200	95.40	90.70	4.70
	400	95.50	91.25	4.24
	600	96.89	91.82	5.07
	800	96.32	92.38	3.94
	1,000	96.85	92.94	3.41
	1,200	96.50	93.50	3.00
	1,400	97.40	94.06	3.34
Lateral "d."				
Lateral "c".....	300	95.57	91.47	4.10
70° right.....	100	95.51	91.72	3.78
	200	95.54	91.97	3.57
Lateral "e."				
Lateral "c".....	400	95.49	91.67	3.82
70° right.....	100	95.66	91.92	3.73
	200	95.65	92.17	3.49

Table "B," giving size of Tile and number of feet of each size used, average depth of cut, cost of ditching, filling, and total cost.

Laterals and Main.	Number of feet of different size of tile used.								6, 7 and 8 inch.		2½, 3, 4 and 5 inch tile		Total No. of feet of tile used	Cost of filling ditches at \$1.25 per 1000 ft	Total cost.
	Number of feet of different size of tile used.								Average depth in feet.	Cost per rod for digging.	Average depth.	Cost per rod for digging.			
	8 inch.	7 inch.	6 inch	5 inch.	4 inch.	3 inch.	2½ inch								
Line A.....	1,059	441	400		400	2,991	3,000		3 959	\$0 49.6125	3.680	\$0 36.8	8,691	\$10 86	\$464.78
Line B.....	1,125	400	700		900	1,492	11,738		4 628	0 57.85	3.676	0 36.76	16,353	20.44	822.84
Line C.....		900	577		623	200	6,402		4 080	0 51	3.81	0 38.1	8,702	10.88	459.81
Line D.....			2,630			1,320	20		6.2975	0.73.31	3.81	0 38.1	8,702	10.88	459.81
Line E.....			970			400	3,301		4 01	0 50	3.716	0 36.16	6,174	6.47	276.83
Hauling.....									4.552	0 57.27					150.00
Engineering.....															150.00
Connections.....															20.00
Total	2,184	1,741	5,277	1,923	2,492	26,253	3,000						42,570		\$2,629.53

The average for 264 acres included in the plat is \$9.90 per acre.

REPORT OF COMMITTEE ON HORTICULTURAL DISPLAY.

To the Illinois State Board of Agriculture:

Your committee appointed to pass upon "the best and largest display of green fruits, wines, cider, vinegar, etc. by county, union, district or horticultural association, or club, or any individual," would report three entries for the premiums.

The collection of the Warsaw Horticultural Society was very large and very creditable, and it is but due to the Society to say that the efforts to advance the horticultural interests of this State are worthy of the highest commendation, as well as imitation; and the same may be said of Hon. A. C. Hammond, of Warsaw, for his efforts in the same direction for many years past.

Only two premiums were awarded, as one of the exhibits was not considered worthy of a premium. Premiums were awarded as follows:

First premium, Warsaw Horticultural Society.....	\$80 00
Second premium, A. C. Hammond, Warsaw.....	40 00

Respectfully submitted,

B. PULLEN,
GEO. S. HASKELL,
J. L. MOORE,
Committee.

On motion of Mr. Gillham,
The Board adjourned to 9 o'clock a. m., to-morrow.

THURSDAY, JANUARY 9, 1880—9 o'clock, A. M.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, Ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Washburn and Landrigan.

Minutes of yesterday's sessions read, and,

On motion of Mr. Washburn,

Adopted.

President appointed Messrs. Gillham, Haskell and Pullen, a committee to consider and report upon the advisability of permanently locating the Illinois State Fair at one point or at three points in the State.

The Treasurer made the following reports for the past year.

TREASURER'S REPORT.

*State of Illinois,**In Account with JOHN W. BUNN, Treasurer.**Illinois State Board of Agriculture:*

1879.	Cr.		
January 9..	By unexpended balance.—Library books, maps, etc.....	\$885 85	
	Crop report.....	288 31	
	Secretary's salary	100 00	
			\$1,052 16
July 1.	By amount received from State on account of premiums....	\$3,000 00	
	Secretary's salary	2,000 00	
	Clerk hire	1,000 00	
	Crop reports.....	1,000 00	
	Museum	1,500 00	
	Library, books and maps	500 00	
	Curator museum..	600 00	
	Porter	600 00	
	Office expen's, pos- tage, express, etc.	500 00	
			10,700 00
July 1.	By am't appropriated for Co Ag'l Boards..		7,800 00
			<u>\$19,552 16</u>
	Dr.		
	To premium account—Illinois State Fair....	\$3,000 00	
	Secretary's salary....	2,000 00	
	Clerk hire.....	1,000 00	
	Crop report.....	935 31	
	Museum	305 48	
	Library, books, maps, etc.....	415 27	
	Curator.....	300 00	
	Porter	600 00	
	Office expense, postage	500 00	
			\$9,056 46
	To unexpended appropriation—Library, books maps, etc	770 58	
	Crop report	330 60	
	Secretary's salary...	700 00	
	Museum	1,194 52	
	Curator	300 00	
			2,695 70
	To each of the following 73 County Agricultural Boards \$100 00, viz: Adams, Boone, Brown, Bureau, Car- roll, Cass, Champaign, Christian, Clark, Clay, Coles, Crawford, Cumberland, DeKalb, DeWitt, Douglas, DuPage, Edwards, Fayette, Ford, Franklin, Fulton, Gallatin, Greene, Grundy, Hardin, Henderson, Hen- ry, Iroquois, Jackson, Jasper, Jefferson, Jersey, Jo- Davies, Kane, Kankakee, Kendall, Knox, Lake, LaSalle, Lawrence, Livingston, Logan, Macon, Ma- coupin, Mason, Massac, McDonough, McHenry, Mc- Lean, Menard, Mercer, Montgomery, Morgan, Moul- trie, Ogle, Peoria, Perry, Platt, Pike, Pope, Putnam, Randolph, Richland, Sangamon, Schuyler, Shelby, Stark Union, Vermillion, Wabash, Warren, Wayne, Whiteside, Will, Williamson, Winnebago.....		\$7,800 00
			<u>\$19,552 16</u>

JOHN W. BUNN,
Treasurer.

SPRINGFIELD, ILL., January 7, 1880.

Illinois State Board of Agriculture:

In account with JOHN W. BUNN, Treasurer.

		Cr.		
		STATE FAIR.		
1879.				
January	9	By balance.....	\$4,899 68	
July	1	By amount received from State account pre- miums.....	3,000 00	
October.	3	By amount received at Springfield Fair.....	28,757 23	\$31,856 91
		FAT STOCK SHOW.		
Nov	15	By amount received Fat Stock Show.....	4,680 08	
		By amount received H. W. McCreary.....	21 00	
		By amount received Union Stock Yard Transit Co.....	1,000 00	
		By amount received Pork Packers' Associa- tion, Chicago.....	500 00	
		By amount of subscriptions, other parties..	1,270 00	
				\$7,471 08
				\$39,127 99
		Dr.		
		STATE FAIR AND BOARD EXPENSES.		
Dec	31	To traveling expenses of Board.....	\$743 63	
		To hotel bills of Board	735 50	
		To postage	318 85	
		To printing and stationery.....	1,686 69	
		To advertising.....	389 03	
		To music	200 00	
		To livery	416 50	
		To police.....	711 10	
		To assistant superintendents	550 15	
		To clerks for Secretary's office during Fair..	106 00	
		To clerks for Treasurer's office during Fair..	255 00	
		To clerks for Auditor's office during Fair...	92 25	
		To gatemen	475 05	
		To awarding committees.....	568 65	
		To sprinkling wagons	78 00	
		To water pipes on Fair Ground.....	325 00	
		To fixtures for Floral Hall.....	112 88	
		To hauling and sprinkling	103 50	
		To forage and straw	193 15	
		To water barrels and ice, 1878 and 1879.....	137 80	
		To fixtures on Fair Grounds.....	845 15	
		To labor on Fair Grounds.....	101 25	
		To nails, locks, etc.	43 74	
		To ticket boxes for Auditors	38 20	
		To veterinary.....	79 45	
		To meals at Fair Grounds	794 55	
		To expense of departments.....	40 70	
		To sundry expenses.....	30 40	
		To use of furniture at Fair Grounds	59 81	
		To office expenses, furniture ag'l dept.....	62 80	
		To Treasurer's commissions.....	624 14	
		To express and freight.	282 11	
		To clerk hire for agricultural department...	130 00	
				\$11,217 02
		To premiums paid—Class A—Cattle.....	\$3,290 06	
		B—Horses.....	3,701 00	
		C—Sheep	990 00	
		D—Swine.....	1,475 00	
		E—Poultry.....	509 00	
		F—Mechanics.....	175 00	
		G—Farm Products.....	626 00	
		H—Horticulture....	1,108 00	
		I—Fine Arts	92 00	
		K—Textile Fabrics.....	517 00	
		L—Natural History.....	205 00	
		M—Military	900 00	
		N—Education.....	315 00	
		Silver medals, etc..	489 86	
		Previous year.....	31 00	
				\$14,503 96

Brought forward.....		\$35,72 98	\$38,127 99
FAT STOCK SHOW EXPENSES.			
To traveling expenses of Board.....	\$280 35		
To hotel bills of the Board.....	388 45		
To printing and advertising.....	745 54		
To awarding committees.....	525 00		
To postage.....	50 00		
To police.....	170 75		
To Fat Stock reports.....	128 82		
To entry books.....	8 50		
To music.....	415 00		
To Lighting Exposition Building.....	384 80		
To clerks for Auditor's office.....	128 85		
To clerks for Treasurer's office.....	100 00		
To expense on Forage department.....	50 00		
To rent of Exposition Building.....	382 09		
To labor.....	176 45		
To use of cattle scales.....	13 50		
To making stalls, pens, and arranging Exposition Building.....	1,063 34		
To sundry expenses.....	10 00		
To assistant superintendents.....	111 35		
		\$5,110 59	
To premis. paid—Class A—Cattle.....	\$2,310 00		
C—Sheep.....	800 00		
D—Swine.....	455 00		
E—Poultry.....	65 00		
G—Dairy.....	526 31		
Silver plate engraving.....	35 42		
Premium ribbon.....	30 00		
		\$4,221 73	
EXPENSES OF WINTER MEETINGS, 1879.			
To traveling expenses of Board.....	\$148 30		
To hotel bills of Board, \$203, \$249.....	452 00		
To premiums.....	500 00		
		\$1,100 30	
By balance.....		2,974 89	\$39,127 99

JOHN W. BUNN,
Treasurer.

SPRINGFIELD, ILL., January 7, 1880.

On motion of Mr. Beaty,
The reports were referred to the financial committee for examination.

The claim of William McConnell for \$15 00 for expenses incurred in constructing a baggage room on the Fair was considered.

On motion of Mr. Snoad,
The claim was allowed on the ground that the permit granted Mr. McConnell was revoked after the expense had been incurred.

On motion of Mr. Gillham,
Board adjourned to 2 o'clock, p. m.

AFTERNOON SESSION.

Board met as per adjournment.

President Scott in the chair.

Present: President Scott, ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Bishop, Pullen, Washburn and Landrigan.

The further consideration of the Premium List being the order the following reports of superintendents of departments and others were received and,

On motion of Mr. Beaty,
Adopted.

PREMIUM LIST—1880.

CLASS A—CATTLE.

REPORT OF SAMUEL DYSART, *Superintendent.*

To the State Board of Agriculture:

As Superintendent of Class A, Cattle, I would recommend that the premium list for 1880 be changed from that of 1879, as follows:

That Lots 13, 14, 15, 16, 17, 18 and 19 be omitted; also that the prize for "Calf under 6 months old" be dropped from the list. By this change there will be a reduction of \$1,095 in the amount of premiums offered in this class. In lieu of the premiums omitted I would add the following to the list:

First, create a new lot, same as for other breeds, with like amount of prizes, for the breed of Polled Angus or Aberdeen Cattle.

Second, to each of the lots for cattle add the following as herd prizes:

BREEDERS' RING.

Best 5 cattle, male or female, over one year old, bred and owned by exhibitor ... \$50 00

HERDS.

Best bull and 5 cows or heifers, one year old or over, owned by one individual or previously existing firm \$50 00

SWEEPSTAKES.

Best bull of any age \$50 00
Best cow of any age 50 00

By this classification, the amount of premium money offered in the list for 1879 will be reduced \$125, and I think a more satisfactory list will be given to exhibitors.

Respectfully submitted,

SAMUEL DYSART,
Superintendent Class A, Cattle.

On motion of Mr. Smith,
The report was adopted.

CLASS B—HORSES.

REPORT OF JOHN LANDRIGAN, *Superintendent.*

To the State Board of Agriculture:

The breeders and exhibitors of heavy draft horses have, with great unanimity, petitioned this Board to make separate lots for "Percherons and other French Breeds," and for "Clydesdale and English Draft Breeds."

It is recommended that lots 26 and 27 be made to include full-bred Percherons, Norman and other French Draft Breeds, and that lots 28 and 29 be made to include full-bred Clydesdale and other English Draft Breeds.

The remaining Lots in the Premium List for 1879 are recommended for the Fair of 1880, with change of caption of lot for "Horses for All Work," and lot for "Horses for Agricultural Purposes," as follows:

LOT—HORSES FOR ALL WORK—GRADES OF THOROUGHBRED AND ROADSTER
STALLIONS.

LOT—HORSES FOR AGRICULTURAL PURPOSES—GRADES OF DRAFT HORSES.

Respectfully submitted,

JOHN LANDRIGAN,
Superintendent Class B, Horses.

On motion of Mr. Snoad,
The report was adopted.

CLASS C—SHEEP.

REPORT OF D. W. VITTUM JR., *Superintendent.*

To the State Board of Agriculture:

I have the honor to recommend the same classification of offerings for sheep for the State Fair, as published in the premium list for 1879, with the addition of a lot for fleeces.

The classification for 1879 gave very general satisfaction to all concerned and brought out the best and largest show of sheep ever exhibited at the Illinois State Fair.

I would suggest that the heading of the old lot 41 be made to read "Leicester or Lincoln," and not include "other pure bred Long Wools."

Respectfully submitted,

D. W. VITTUM JR.,
Superintendent Class C, Sheep.

On motion of Mr. Douglas,
The report was adopted.

CLASS D—SWINE.

REPORT OF WM. VOORHIES, JR., *Superintendent.*

To the State Board of Agriculture:

I have the honor to submit the same classification of premiums for this department as published last season, for the State Fair, with the omission of the premiums for "Pigs under six months old." The ring for "Pigs six months old and under one year," is made to include all animals under one year, and the pigs under six months show with the sows as a litter. This reduces the amount of premiums \$30 00 in each of the five lots, \$20 of which is recommended in each of the lots, for "Boar with five of his get." The Breeding Pen to consist of sows over one year old.

In lots 57 and 58, I would recommend that the heading be changed so as to include only "Small Yorkshires." There are several new varieties of swine, that have been exhibited in limited numbers at our Fairs the past few years, but are not sufficiently distributed among breeders to entitle them to separate lots. Would recommend that the \$50 00 deducted from the several lots be given in a first, second and third premium to the "Best show of hogs of any distinct breed not named in the Premium List."

Respectfully submitted,

WM. VOORHIES, JR.,
Superintendent Class D, Swine.

On motion of Mr. Vittum,
The report was adopted.

CLASS E—POULTRY.

REPORT OF H. D. EMERY, *Superintendent.*

To the State Board of Agriculture:

As Superintendent of Class E, Poultry, I would recommend that rule 11 be amended so as to read 'Coops should be of the following dimensions: For turkeys and geese—3½ feet high, 8 feet wide, 4 feet long. Fowls, 28 inches high, 20 inches wide, and 30 inches long.'

I also recommend the addition of a premium of \$5 00 for 'best pair of any new variety of fowls' that shall be considered by the committee equal to the best of the present classification of this Board. No other changes from the 1879 premium list desired.

Respectfully submitted,

H. D. EMERY,
Superintendent Class E, Poultry.

On motion of Mr. Reynolds,
The report was adopted.

CLASS F—MECHANICS.

SECTION 1.

REPORT OF J. M. EPLER, *Superintendent.*

To the State Board of Agriculture:

In Class F, Section 1, I would recommend that the premium list for 1880 remain the same in form as that of 1879, with the addition of the list of articles of mechanical skill hereto attached, the premiums for the new articles named, to consist of silver medals.

Respectfully submitted,

J. M. EPLER,
Superintendent Class F, Mechanics, Section 1.

On motion of Mr. Emery,
The report was adopted.

CLASS F—MECHANICS.

SECTION 2.

REPORT OF W. M. SMITH, *Superintendent.*

To the State Board of Agriculture:

I have no recommendation to make as to any change in the premium list for this class. The list has been somewhat enlarged by adding farm machinery, without cash premiums.

Respectfully submitted,

W. M. SMITH,
Superintendent Class F, Mechanics, Section 2.

On motion of Mr. Emery,
The premium for horse-power was changed to apply to a four-horse power, suitable for general farm purposes.

On motion of Mr. Voorhies,
The Secretary was instructed to advertise in the rules, at the head of section 2, that the Board would furnish steam power.

On motion of Mr. Gillham,
The report, as amended, was adopted.

CLASS G—FARM PRODUCTS.

REPORT OF SAMUEL DOUGLAS, *Superintendent.*

To the State Board of Agriculture:

I have the honor to suggest the same premiums for Class G as appears in the last Premium List, with the addition of a lot for breads, sponge cake, snow cake, pound cake, jelly cake, silver cake, gold cake and ginger cake, to be made by a girl under thirteen years of age; the premiums to be \$4 00 and \$2 00, for bread and cake.

This slight increase of premiums will serve a valuable purpose, in interesting many new exhibitors in our Fair, and as a means of instruction in culinary matters to the young of the State, cannot be too highly estimated.

The list presented herewith does not include the premium for display of vegetables, and reduces the premiums for display of butter and cheese to \$15 00. The aggregate of premiums has not been increased over last year.

Respectfully submitted,

S. DOUGLAS,
Superintendent Class G, Farm Products.

On motion of Mr. Snoad,
The report was adopted.

CLASS H—HORTICULTURE.

SECTION 1.

REPORT OF GEO. S. HASKELL, *Superintendent.*

To the State Board of Agriculture:

I have the honor to recommend the classification of premiums presented herewith for section 1, Horticulture.

The list presented does not increase the amount of premiums, as compared with 1879

Respectfully submitted,

GEO. S. HASKELL.
Superintendent Class H, Horticulture, Section 1.

On motion of Mr. Pullen,
The report was adopted.

CLASS H—HORTICULTURE.

SECTION 2.

REPORT OF B. PULLEN, *Superintendent.*

To the State Board of Agriculture:

I have the honor to submit the accompanying classification of premiums for my department for 1880. The amount of premiums as compared with the former list is slightly reduced.

The number of lots has been reduced by making display premiums for Jellies, Preserves etc., which will also save considerable expense for committees, and greatly improve the character and attractions of the exhibition.

Respectfully submitted,

B. PULLEN.
Superintendent Class H, Horticulture, Section 2.

On motion of Mr. Washburn,
The report was adopted.

CLASS I—FINE ARTS—CLASS L—NATURAL HISTORY.

REPORT OF JOHN P. REYNOLDS, *Superintendent.*

To the State Board of Agriculture:

I have no material changes to suggest in classes I and L, for the premium list of 1880, and the list presented herewith does not increase the amount of premiums heretofore offered.

Respectfully submitted,

JOHN P. REYNOLDS.

Superintendent Class I, Fine Arts and Class L, Natural History.

On motion of Mr. Landrigan,
The report was adopted.

CLASS K—TEXTILE FABRICS.

REPORT OF E. H. BISHOP, *Superintendent.*

To the Illinois State Board of Agriculture:

I have no change to suggest in the premium list of class K, for the coming Fair.

The amount in the list proposed, and presented herewith, is the same as last season. There have been some slight changes made in form of defining premiums and more convenient arrangement.

Respectfully submitted,

E. H. BISHOP,

Superintendent Class K, Textile Fabrics.

On motion of Mr. Voorhies,
The report was adopted.

CLASS N—EDUCATION.

REPORT OF EMERY COBB, *Superintendent.*

To the State Board of Agriculture:

I have the honor to recommend that the same amount of premiums be offered in class N, Education, as last season. The classification presented herewith covers, in the main, the same offerings as were published in the 1879 list.

Respectfully submitted,

EMERY COBB,

Superintendent Class N, Education.

On motion of Mr. Smith,
The report was adopted.

WINTER MEETINGS PREMIUMS.

To the State Board of Agriculture:

Your committee appointed to revise the list of premiums to be awarded at the Winter Meeting of 1881, would respectfully submit the following:

DISPLAYS, GRAINS, VEGETABLES, FRUITS, ETC.

1st. We would recommend that the words "or individual," at the end of the first paragraph be stricken out

2d. That the second paragraph remain the same as last year which reads as follows: "For the best and largest display of Green Fruits, Wines, Cider, Vinegar, etc., by county, Union, District or Horticultural Association or Club or any individual."

3d. That the three premiums in each be changed to two of \$75 00 and \$50 00; in lieu of \$60 00, \$40 00 and \$25 00

Your committee believe that the increased amounts in these two premiums will have the effect to increase the interest of County Boards and Clubs making displays.

ROAD-MAKING.

Your committee would recommend the following: To township that will grade, ditch and complete the greatest number of miles of earth road during the year 1880-\$100 00.

Statement on blanks furnished by department to be made to the Secretary of the Board by the first Monday in January, 1881, giving full information on the following points: Soil, subsoil, methods applied in construction, original elevation of road bed, elevation of graded road, width of finished road bed, width of graded road bed, width of berme, slope, width and depth of ditches, and system of discharge, with the cost of same.

The whole to be verified by affidavit of Road Commissioners of the township, or the Supervisors of counties not under township organization. Farm drainage to remain as last year.

Respectfully submitted,

D. B. GILLHAM,
B. PULLEN,
GEO. S. HASKELL
Committee.

On motion of Mr. Beaty,

The report was adopted.

Finance committee presented the following report, which was,

On motion of Mr. Ellsworth,
Adopted.

REPORT OF FINANCE COMMITTEE.

To the Illinois State Board of Agriculture:

The finance committee would beg leave to report that they have carefully examined the annual report of the Treasurer, John W. Bunn, for the year ending January 7, 1880, with the approved vouchers on file in the office of the department, which have been compared with the warrants of the Secretary and premium checks.

The vouchers agree with the report of the Treasurer, which we find correct, and recommend for the approval of the Board.

Respectfully submitted,

W. M. SMITH,
D. E. BEATY,
E. H. BISHOP,
Committee.

The Auditing Committee presented the claim of Turney English, Esq., of Springfield, for \$50 00 in payment of services as detective in causing the arrest of Cornelius Gibson, of Springfield, for stealing articles entrusted to his care in the office of the Secretary at the Fair Grounds.

The committee recommended the immediate payment of \$25 00, the balance to be paid on conviction.

On motion of Mr. Landrigan,

The entire claim of Mr. English was ordered paid without delay.

Mr. Washburn introduced the following resolution, which was,

On motion of Mr. Moore,

Adopted:

Resolved, That the compensation of assistants of Superintendents and committeemen, who have been summoned to attend the Fair as such, shall not exceed the actual and necessary expenditures made by each, for railroad fare and hotel bills, in going to and returning from the Fair, and \$2 00 per day for board for each day's actual attendance and service at the Fair; and for all such assistants and committeemen who are summoned on the Fair Ground, \$2 00 for each day's actual and necessary service, and no travelling expenses. All bills to be itemized and dated correctly, and certified by the Superintendent employing such assistant or committeemen.

Mr. Smith introduced the following resolution, which was,

On motion of Mr. Landrigan,

Adopted:

Resolved, That bills certified by Superintendents ordering material or labor, where no contract as to price has been made, the certifying to the bill or account will not be understood to approve of the price or quantity.

The auditing committee shall investigate the correctness of prices and quality of such articles or labor.

The motion of Mr. Voorhies,

To select expert committeemen for the Fair of 1880 on the same plan as adopted for the Fair of 1879, was lost.

On motion of Mr. Landrigan,

The vote was reconsidered on the resolution of Mr. Washburn, fixing the compensation of assistant superintendents and committeemen.

On motion of Mr. Reynolds,

Eight o'clock this evening was made the special hour for considering the resolution of Mr. Washburn.

The following resolution, introduced by Mr. Vittum, was,

On motion of Mr. Voorhies,

Adopted:

Resolved, That a committee of six with the President as chairman, be appointed to obtain a guarantee fund of not less than the amount offered in premiums on Fat Stock and in case said fund shall be obtained that said committee proceed to have made the necessary preparations and arrangements for said Show.

On motion of Mr. Reynolds carried—

That twenty-five hundred dollars or more be offered in premiums at the Fat Stock Show, provided sufficient donations are secured to cover the amount.

On motion of Mr. Dysart,

The superintendents of classes A, C, and D, were appointed a committee to prepare a list of premiums for the Fat Stock Show of 1880.

Mr. Voorhies presented a Speed programme for the Fair of 1880.

On motion of Mr. Washburn,

The programme for Speed was referred to a committee of three.

President appointed as said committee, Messrs. Washburn, Voorhies and Beaty.

On motion of Mr. Voorhies,

The consideration of the Speed programme was made the special order for 8 o'clock p. m.

On motion of Mr. Beaty,

Adjourned to 8 o'clock p. m.

EVENING SESSION.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Epler, Smith, Voorhies, Washburn and Landrigan.

The following reports relating to the premium list of the Fat Stock Show were received, and,

On motion of Mr. Gillham,

Adopted:

To the Illinois State Board of Agriculture:

Your committee, to whom was referred the classification of premiums for the Fat Stock Show for 1880, would beg leave to report that they have had the matter under consideration, and have largely reduced the premiums, as will be seen by the recommendation of the several superintendents of departments which are presented herewith and request for favorable consideration.

SAMUEL DYSART,
D. W. VITNUM, JR.,
WM. VOORHIES, JR.,
Committee.

CLASS A—CATTLE.

REPORT OF SAMUEL DYSART, *Superintendent.*

To the Illinois State Board of Agriculture:

I have the honor to recommend the following classification for Fat Stock Premiums on cattle, which largely reduces the amount of premiums as compared with the offerings of the previous year.

Respectfully submitted,

SAMUEL DYSART,
Superintendent Class A, Cattle.

On motion of Mr. Gillham,

Adopted.

CLASS C—SHEEP.

REPORT OF D. W. VITNUM, JR., *Superintendent.*

To the Illinois State Board of Agriculture:

I have the honor to submit the following classification of premiums for Class C, Sheep, for the 1880 Fat Stock Show.

This classification reduces the amount of premiums offered in this class \$90 00, when compared with the previous year.

Respectfully submitted,

D. W. VITNUM, JR.,
Superintendent Class C, Sheep.

On motion of Mr. Cobb,

Adopted.

CLASS D—SWINE.

REPORT OF WM. VOORIES, JR., *Superintendent.**To the Illinois State Board of Agriculture:*

The classification of premiums for Swine at previous Fat Stock Shows has been very unsatisfactory to exhibitors, and the premiums when compared with that of other classes appear too low.

It is recommended that a classification similar to that adopted for cattle be favorably considered by the Board, where the following recognized breeds may be judged in separate lots before being brought into competition in Sweepstakes rings, viz: Berkshires, Poland Chinas, Chester White, Essex, Grades or Crosses

The offerings to each of the five classes named to be as follows:

Barrow 1 and under 2 years	1st	\$10 00.	2d	\$5 00
Barrow under 1 year.....		10 00.		5 00
Sow 1 and under 2 years.....		10 00.		5 00
Sow under 1 year.....		10 00.		5 00

SWEEPSTAKES.

Barrow 1 and under 2 years	\$25 00
Barrow under 1 year.....	25 00
Sow 1 and under 2 years.....	25 00
Sow under 1 year.....	25 00

GRAND SWEEPSTAKES.

Best Barrow or Sow in the show	\$50 00
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HEAVIEST FAT HOG.

Barrow or Sow any age	\$50 00
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CAR LOADS.

Car-load 30 fat barrows, 1 and under two years old	\$50 00
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The amount of premiums offered in this class has not been largely increased over that of the previous year, as will be seen by the above.

Respectfully submitted,

WM. VOORIES,
Superintendent Class D, Swine.

On motion of Mr. Epler,
Adopted.

CLASS G—POULTRY.

REPORT OF H. D. EMERY, *Superintendent.**To the Illinois State Board of Agriculture:*

In Class E, Poultry, I would recommend that the premium on display of live Fat Poultry be reduced from \$25 00 to \$20 00, and on dead game from \$50 00 to \$25 00, making a reduction of \$30 00 in this class.

Respectfully submitted,

H. D. EMERY,
Superintendent Class E, Poultry.

On motion of Mr. Douglas,
Adopted.

CLASS G—DAIRY PRODUCTS.

REPORT OF SAMUEL DOUGLAS, *Superintendent.*

To the Illinois State Board of Agriculture:

I have the honor to recommend that the same amount of premiums be offered for Dairy Products as last year at the Fat Stock Show, provided that a guarantee fund can be raised sufficient for that purpose.

In addition to the premiums offered last season would recommend that a diploma and \$——be offered for the best creamery and dairy butter, the best factory and dairy cheese exhibited by makers in each of the several dairy states, also diploma or silver medal for Butter made in June, September, October and November, also for print butter.

As the dairymen have given assurance of liberal support to the next show of dairy products I would recommend that the President and Secretary be authorized to apportion all cash donations to this class in a premium of diploma for display of foreign and domestic dairy salt and for dairy apparatus is also recommended.

Respectfully submitted

SAMUEL DOUGLAS,
Superintendent Class G, Dairy Products.

On motion of Mr. Ellsworth,

The report was adopted.

On motion of Mr. Cobb,

The guarantee fund for dairy products, was to be assured by March 1st, 1880.

On motion of Mr. Gillham,

Superintendent Douglas was authorized to secure by subscription the necessary funds for dairy premiums recommended.

On motion of Mr. Landrigan,

The same privilege was granted as last year for showing horses at the Fat Stock Show of 1880.

On motion of Mr. Gillham,

The same provisions were made for showing implements and utensils at Fat Stock Show as last season.

The special order being the consideration of the resolution of Mr. Washburn, fixing compensation of assistants, superintendents and committeemen, and coming up,

The following resolution, offered as a substitute by Mr. Dysart, was,

On motion of Mr. Gillham,

Adopted:

Resolved, That Superintendents of Departments be allowed but one assistant; said assistant to receive no compensation for hotel and travelling expenses, and only \$3 00 per day and meals on the Fair Ground during the Fair.

Resolved, That committeemen serving during the Fair shall receive not to exceed \$3 00 per day and meals on the Grounds, while in actual service, but no compensation for hotel or travelling expenses.

On motion of Mr. Washburn,

The vote on Mr. Dysart's resolutions was reconsidered.

Mr. Cobb offered the following as a substitute for Mr. Washburn's resolution, which were,

On motion of Mr. Beaty,

Adopted:

Resolved, That Superintendents of Departments be allowed necessary number of assistants; said assistants to receive no compensation for hotel and travelling expenses, and only admission tickets, \$3 00 per day and meals on the Ground, while in actual service during the Fair.

Resolved, That committeemen serving during the Fair shall receive admission tickets and meals on the Fair Ground, while in actual service, but no compensation for hotel or travelling expenses.

Mr. Reynolds introduced the following, which was,
On motion of Mr. Haskell,
Adopted:

Resolved, That the Secretary be and is hereby instructed to have prepared and printed for distribution as early as possible a catalogue of the stock on exhibition at the next Fat Stock Show, the same to contain all proper information for visitors in regard to entry, and to be properly arranged and classified.

The special order being the consideration of Speed programme for the Fair and coming up, the following majority and minority reports were received;

MINORITY REPORT.

To the Illinois State Board of Agriculture:

The undersigned minority of the committee appointed to consider and report a Speed programme for the State Fair of 1880, presents the following as a minority report:

The undersigned protests against 'running races' at the State Fair or making the State Board of Agriculture a 'Jockey Club',

He would be willing that a match of trotting and pacing or of walking of horses be held on each day of the Fair under proper superintendence and restrictions and for reasonable premiums, ten per cent. of which shall be paid as entry fees.

Respectfully submitted,

JAMES M. WASHBURN.

MAJORITY REPORT.

To the Illinois State Board of Agriculture:

The undersigned would beg leave to make the following report representing the views of a majority of the committee concerning speed programme for the Fair of 1880:

Your committee would recommend that the following purses be offered for speed under the conditions named, and in order that the tests of speed may be properly regulated we recommend that a new class M, be made, and that the President appoint a superintendent to take charge of the same.

CLASS M—SPEED.

LOT ...—SPEED RINGS.

The speed tests will be under the immediate supervision of the Board and governed by standard authorities in such matters.

Entries close on Saturday night, September 19th, 1880. An entrance fee of 10 per cent. of the purse must be paid at time of making entry.

The races will be for mile heats except as noted best three in five with five to enter and three to start. and open alike to stallions, mares and geldings. Owners of horses must furnish at time of making entry the name, age, pedigree and color of the horses entered. If the animal has been entered under another name within two years the former name must be given.

THURSDAY AFTERNOON, 3 O'CLOCK.

Trotting Race—Purse \$200 00.

To harness for horses that have not beaten 2:40.

First premium.....	\$100 00
Second premium.....	80 00
Third premium.....	20 00

THURSDAY AFTERNOON, 3 O'CLOCK.

Trotting Race—Purse \$200 00.

To harness for horses that have not beaten 2:30.

First premium.....	\$100 00
Second premium.....	80 00
Third premium.....	20 00

FRIDAY AFTERNOON, 3 O'CLOCK

Running Race—Purse \$200 00.

Open to all ages.

First premium.....	\$100 00
Second premium.....	80 00
Third premium.....	20 00

FRIDAY AFTERNOON, 3 O'CLOCK.

Trotting Race—Purse \$200 00.

To harness for horses that have not beaten three minutes.

First premium.....	\$100 00
Second premium.....	80 00
Third premium.....	20 00

SATURDAY MORNING, 10 O'CLOCK.

Free for all Trot, to harness—Purse \$300 00.

First premium.....	\$175 00
Second premium.....	95 00
Third premium.....	30 00

SATURDAY MORNING, 10 O'CLOCK.

Running Race—Purse \$100 00

Open to all ages.

First premium.....	50 00
Second premium.....	40 00
Third premium.....	10 00

SATURDAY AFTERNOON, 2 O'CLOCK.

Pacing Race—Purse \$200 00.

Free for all.

First premium.....	\$100 00
Second premium.....	80 00
Third premium.....	20 00

SATURDAY AFTERNOON, 3 O'CLOCK.

Running Race—Purse \$100 00.

For two years old—One-half mile dash.

First premium.....	\$50 00
Second premium.....	40 00
Third premium.....	10 00

SATURDAY AFTERNOON, 3 O'CLOCK.

Running Race—Purse \$200 00

Two mile dash—Open to all.

First premium.....	\$100 00
Second premium.....	80 00
Third premium.....	20 00

Respectfully submitted,

WM. VOORHEES, JR.,
D. E. BEATY.

The minority report coming up, was defeated.

On motion of Mr. Haskell,

The majority report coming up, and the ayes and nays being called for, the report was adopted by the following vote:

For the majority report—Messrs. Ellsworth, Emery, Reynolds, Haskell, Moore, Dysart, Snoad, Cobb, Vittum, Beaty, Epler, Smith, Voorhies, Bishop, Landrigan, Gillham and Scott.

Against majority report—Messrs. Douglas, Pullen and Washburn.

Mr. Gillham introduced the following, which was,

On motion of Mr. Haskell,

Adopted:

Resolved, That two thousand copies of the report of the Fat Stock Show of 1879 be published for distribution, and that the premium list for the show of 1880 be published therein.

Mr. Haskell introduced the following, which was,

On motion of Mr. Gillham,

Adopted:

Resolved, That the thanks of the Board are tendered to J. B. Spaulding for his liberality and thoughtfulness in providing the attractive display of palms, ferns, and other greenhouse plants for the decoration of the rooms of the department during the meeting.

On motion of Mr. Emery,

The following premiums were authorized and to be competed for at the winter meeting of the Board.

Best 100 pounds sorghum or corn-stalk sugar made in Illinois by vacuum boiling.....	\$20 00
Best 100 pounds of sorghum or corn-stalk sugar made in Illinois in open pan	20 00
Best five gallons of sorghum or corn-stalk syrup made in Illinois.....	10 00

On motion of Mr. Haskell,

The printing and issuing of complimentary tickets was left with the President, Secretary and Auditing Committee.

Mr. Cobb introduced the following, which was,

On motion of Mr. Moore,

Adopted:

Resolved, That committeemen be selected by the members of the Board on lists furnished by the Secretary, and published in the premium list under the several lots.

On motion of Mr. Ellsworth,

Officers and members of the Board were allowed the same number of complimentary tickets as last season.

On motion of Mr. Haskell,

Board adjourned to 9 o'clock a. m. to-morrow.

FRIDAY, JANUARY 9, 1880—9 o'clock a. m.

Board met pursuant to adjournment.

President Scott in the chair.

Present: President Scott, ex-President Gillham, Vice-Presidents Ellsworth, Emery, Reynolds, Moore, Dysart, Snoad, Cobb, Vittum, Douglas, Beaty, Smith, Voorhies, Washburn and Landrigan.

Minutes of yesterday's sessions read, and,

On motion of Mr. Cobb,

Adopted.

President appointed Mr. Gillham as Superintendent of Class M, Speed.

President appointed to act with him as a committee on Fat Stock Show, Messrs. Gillham, Ellsworth, Dysart, Vittum and Voorhies.

The following report of committee on rules and regulations for the Fat Stock Show, was,

On motion of Mr. Beaty,
Adopted:

To the Illinois State Board of Agriculture:

Your committee would recommend the same rules and regulations as published in the Fat Stock Show Premium List of 1879.

Respectfully submitted,

SAMUEL DYSART,
WM VOORHIES, JR.,
JOHN M. EPLER.

On motion of Mr. Cobb,

The special committee on Fat Stock Show were authorized to make any necessary changes in the rules.

On motion of Mr. Gillham,

The President was authorized to appoint two members to act as referees in class M, Speed.

President appointed Messrs. Cobb and Smith.

On motion of Mr. Gillham,

The following substitute was adopted for rule 8 relating to entries for the next State Fair.

No entry shall be made after Saturday, September 25th, at 6 o'clock p. m., unless in case of unavoidable detention, and then only on the certificate of the superintendent of the department.

Mr. Reynolds introduced the following, which was, .

On motion of Mr. Gillham,
Adopted:

Resolved, That the salary of the Assistant Secretary be one hundred dollars per month to date from the first instant.

On motion of Mr. Dysart,

Monday, November 15, 1880, at 9 o'clock a. m., was appointed for the opening of the Fat Stock Show.

On motion of Mr. Gillham,

The Secretary was instructed to issue complimentary tickets for the Fair to Crop and Meteorological correspondents, the press of the State, and officers (President and Secretary) of county Fair Associations.

On motion of Mr. Smith,

The claim of Wm. Day, Springfield, for straw furnished during the Fair was allowed and ordered paid.

Mr. Scott, chairman of committee appointed to confer with the local committee for settlement of claim for improvements made by the Board at the Fair Ground, and called for in the specification of requirements, stated that Hon. John M. Palmer, of Springfield, one of the signers of the bond, had promised to see that the shortage of the local committee was made good to the Board.

On motion of Mr. Cobb,

The number of premium lists to be issued was left to the printing committee.

Mr. Gillham presented a paper on Illinois Agriculture for 1879.

On motion of Mr. Cobb,

A vote of thanks was tendered Mr. Gillham for his valuable paper, which was ordered published in the annual report. (See Appendix.)

The annual report of the auditing committee was received, and,
On motion of Mr. Gillham,
Adopted.

REPORT OF AUDITING COMMITTEE.

To the Illinois State Board of Agriculture:

Your committee would call attention to the importance of adopting the most perfect system of keeping accounts of the Board that can be devised to the end that the numerous and great variety of accounts may be more easily classified and arranged for the convenience of the Finance Committee during examination, as well as the compilation of the accounts for publication.

It is recommended that the expenses of the Board be divided hereafter into three divisions, as follows, and that separate vouchers for each of the three accounts be required:

1st. All accounts relating to the State Fair.

2nd. All expenses connected with the Fat Stock Show.

3rd. All bills pertaining to the winter meeting.

To complete the system adopted and to insure uniformity with all the expense accounts, your committee would recommend that all vouchers relating to the above accounts be audited before payment.

It will be apparent, from the following report, that in many items the expenses of the Board have hardly increased, and that notwithstanding the large increase of receipts, the expenses have exceeded them.

This ought to admonish us that if we would continue these interesting and really important institutions, we must decrease the expenditures.

This may be done by decreasing the amount of premiums, the compensation of experts, and by always stipulating for a fixed price when purchases are made, or labor employed.

The latter your committee urgently recommend.

The result apparent from the complimentary ticket system now used loudly calls for a change, and the committee believe that if these tickets admit a single person only, and for one day only, it would largely prevent such wholesale abuse of them.

The items under the head of special expenses would seem to be covered in the specifications of this Board for necessary fixtures on the Fair Ground, to be furnished by the local committee, and not in equity chargeable to the Board.

The expenses of the auditing committee are larger than heretofore, owing to the large number of gates, seven in all.

By State appropriation, account of premiums.....	.....	.....	.....	\$3,000 00
STATE FAIR.				
	No.	No.	Amount.	
Cr.				
PAYING ADMISSIONS.				
By season and coupon tickets and checks.....	5,475		\$2,705 00	
Single admission tickets (adult).....	31,031		15,965 50	
Single admission tickets (child).....	3,486		871 50	
Single ticket admitting one or two horse vehicle..	2,513	44,405	1,256 50	
				\$20,798 50
NON-PAYING ADMISSIONS.				
By complimentaries.....	4,126			
Crop reporters, press, officers county fairs.....	131			
Laborers 532, railroad employees 121.....	653			
Permits, booths, stands, etc.....	987	5,877		
Total number admissions.....		50,282		
BOOTH AND PRIVILEGES.				
By dining hall privileges.....			\$544 31	
Booth permits.....			626 00	
Miscellaneous permits.....			488 42	
Beer privilege.....			1,300 00	2,958 73
Amount received at Springfield Fair.....				\$26,757 23

AUDITOR'S REPORT—Continued.

Dr.

EXPENSES OF DEPARTMENTS, STATE FAIR.

Class.	Asst super- intendents or clerks..	Awarding committees	Traveling expenses	Hotel.....	Livery	Meals at fair Grounds..	Total
To A—Cattle.....	\$24 00	\$81 75	\$39 70	\$27 50	.....	\$16 67	\$189 62
B—Horses.....	88 55	127 60	35 70	29 75	32 00	29 33	842 93
C—Sheep.....	27 00	45 00	.....	23 75	.....	19 67	115 42
D—Swine.....	21 00	39 00	13 90	23 50	.....	17 67	120 07
E—Poultry.....	15 00	15 00	25 40	15 75	.....	21 00	92 15
F—Mechanics— Section 1.....	30 00	27 00	43 00	.....	.....	15 00	115 00
F—Mechanics— Section 2.....	64 50	24 00	18 50	30 25	40 00	29 33	206 58
G—Farm Pro- ducts.....	18 00	24 00	10 80	34 50	10 00	35 00	132 30
H—Horticultural —Section 1.....	31 00	15 00	40 90	29 25	21 00	41 66	-178 81
H—Horticultural —Section 2.....	33 00	39 00	15 10	38 00	.....	20 00	143 10
I—Fine Arts.....	61 00	.....	10 55	5 25	.....	8 50	85 30
K—Textile Fab- rics.....	60 00	39 00	42 00	33 00	7 00	25 00	206 00
L—Natural His- tory.....	36 00	.....	3 50	5 25	.....	8 50	53 25
M—Military.....	.....	50 00	22 50	27 75	.....	11 67	111 92
N—Education...	11 10	37 50	9 35	20 50	.....	6 00	84 45
Marshal Ring...	30 00	.....	25 50	54 00	38 00	24 33	169 83
General Superin- tendent.....	50 00	.....	33 25	38 25	26 00	173 00	320 50
Chief of Police..	50 00	.....	.....	.....	.....	.....	50 00
Auditing Com- mittee.....	92 25	.....	124 49	93 25	56 00	161 33	527 32
Secretary's Office	106 00	.....	75 24	2 25	.....	47 22	230 71
Treasurer's Office	255 00	.....	.....	.....	.....	22 00	277 00
President's Office	.....	.....	123 00	41 00	4 50	16 67	185 17
Reception Com- mittee.....	.....	.....	.....	30 25	114 00	.....	144 25
Veterinarian (services, etc.)	79 45	.....	.....	15 00	.....	.....	94 45
Committee of Arrangements	.....	.....	31 25	77 25	20 00	.....	128 50
Forage Dept.....	.....	.....	.....	37 25	50 00	35 00	122 25
Total.....	\$1,132 85	\$563 85	\$743 63	\$735 50	\$416 50	\$784 55	\$4,426 88

STATE FAIR EXPENSES.

To gatemen.....	\$475 05
Police and police justice.....	611 10
Music on Fair Grounds.....	200 00
Advertising.....	389 03
Postage.....	318 85
Printing and stationery.....	1,636 69
Sprinkling wagon.....	78 00
Fixtures in Floral Hall.....	112 88
Hauling and sprinkling.....	103 50
Forage Department.....	93 15
26½ tons of straw, \$4 00.....	\$105 00
Fixtures on Fair Grounds.....	845 15
Water pipes on Fair Grounds.....	325 09
Water barrels and ice, 1878-1879.....	\$1,275 24
Labor on Fair Grounds.....	187 80
Nails, locks, etc., for Fair Grounds.....	101 25
Ticket boxes for auditors.....	43 74
Expenses of departments for Fair.....	33 80
Sundry expenses.....	40 70
Use of furniture at Fair Grounds.....	30 40
Offices expenses, furniture, agricultural department.....	59 91
	62 80

AUDITOR'S REPORT—Continued.

Treasurer's commissions						624 14	
Express and freight						232 11	
Clerk hire for office department						130 00	
Premiums State Fair						14,503 98	
To balance						1,033 25	
						\$26,757 23	\$26,757 23
FAT STOCK SHOW.							
Cr.							
By amount receipts gate, etc.						\$4,680 08	
" received H. W. McCreary						21 00	
" " Union Stock Yards, and Transit Co.						1,000 00	
" " Pork Packers Association, Chicago.						500 00	
" " Subscriptions other parties						1,270 00	
							\$7,471 80
EXPENSES OF DEPARTMENTS, FAT STOCK SHOW.							
Class.	Asst t super- intendents or clerks..	Awarding committees	Travelling expenses	Hotel.....	Total.....		
To A—Cattle		\$267 00		\$21 00	\$288 00		
B—Horses			\$23 20	13 75	41 95		
C—Sheep	\$36 35	87 35	64 20	49 25	237 15		
D—Swine		170 65	24 40		195 05		
E—Poultry	16 50		6 65		23 15		
F—Mechanics — section 2				16 00	16 00		
G—Dairy pro- ducts	43 50		11 00	27 35	81 85		
Vice Pres. 8th dis.				10 00	10 00		
Vice Pres. 16. dis				5 50	5 50		
Marshall of ring.			10 00	23 50	33 50		
Gen. superint'dt			11 50	10 00	21 50		
Auditing comm.	128 85		26 20	45 50	200 55		
Secretary's office			23 20	63 50	91 70		
Treasurer's office	100 00				100 00		
President's office			30 00	11 50	41 50		
Committee of ar- rangements...				47 75	47 75		
Forage Dep't....	15 00		20 00	41 85	76 85		
Total....	\$340 20	\$525 00	\$260 35	\$386 45	\$1512 00	\$1512 00	
FAT STOCK SHOW EXPENSES.							
To printing and advertising					\$745 54		
Postage					50 00		
Police					170 75		
Fat Stock reports					128 62		
Entry books					8 50		
Music					415 00		
Lighting Exposition Building					384 80		
Forage department					50 00		
Rent Exposition Building					382 09		
Labor					176 45		
Use of cattle scales					13 50		
Making stalls, pens and fixing Exposition Building..					1,063 34		
Sundry expenses					10 00		
Premiums					4,221 73	\$9,532 32	
Deficit Fat Stock Show 1879							\$1,661 24
Total expenses Fat Stock Show						\$9,532 32	\$9,532 32

REPORT OF THE GENERAL SUPERINTENDENT.

To the Illinois State Board of Agriculture:

The duties of your Superintendent at the late Fair were more arduous than usual, owing to the large area within the enclosure to be patrolled and the unfinished condition of the required and specified improvements, which necessitated the employment of a large force of carpenters and laborers during the early part of the week.

The magnitude of the State Fair, and the increasing duties from year to year devolving upon the General Superintendent, leads me to make the suggestion that a portion of the labor of this office might very properly be performed by the Auditing Committee, so far, at least, as relates to the purchase of material and the employment of labor required in the preparation of the several departments for the Fair and Fat Stock Show. This suggestion is prompted as the result of the experience of the late Fair, during which the preservation of order and the enforcement of proper police regulation, so thoroughly absorbed the time and attention of your Superintendent as to make it almost impossible, with any degree of satisfaction, to discharge the numerous, and at times very pressing duties of the position. As the Auditing Committee have the examination and settlement of all claims for material and labor furnished in connection with the Fair and Fat Stock Show, it would, in the opinion of your Superintendent greatly simplify and expediate the business of the Board to empower the Auditing Committee to make the contracts that they are now required by existing rules to approve and audit before payment.

Good order was preserved during the week of the Fair and no complaints reached your Superintendent reflecting upon the efficiency of the police force.

M. T. STOOKEY,
General Superintendent.

Minutes of morning session read and,

On motion of Mr. Dysart,

Adopted.

On motion of Mr. Cobb,

Adjourned, subject to the call of the President.

JAMES R. SCOTT,
President.

S. D. FISHER,
Secretary.

REPORTS FROM COUNTY AGRICULTURAL BOARDS.

The financial reports of the County Agricultural Boards, and other societies in this State, holding fairs in 1879, are presented herewith.

The reports of the exhibitions in the various departments, and other matters usually published in connection with the reports, are tabulated and follow the financial exhibits:

ADAMS COUNTY.

OFFICERS.—President, W. T. Yeargain, Quincy; Vice-Presidents, O. H. Collins, P. G. Horn, Liberty; Secretary, G. W. Dean, Adams; Treasurer, J. F. Hughes, Adams.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$101 54
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		4,057 05
Amount received 1879, booth rents and permits		458 50
Amount received 1879, sale shares of stock		145 85
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		25 00
Amount paid 1879, in premiums	\$2,497 25	
Amount paid 1879, real estate, buildings, etc	1,417 58	
Amount paid 1879, current expenses other than premiums	809 55	
Amount remaining intresury	193 56	
Amount deficit, including mortgage, etc		
Totals	\$4,887 94	\$4,887 94

BOONE COUNTY.

OFFICERS.—President, Richard Barnes, Belvidere; Vice-President, John Hannah, Belvidere; Secretary, A. E. Jenner, Belvidere; Treasurer, W. S. Jones, Belvidere.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$44 06
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		2,055 05
Amount received 1879, booth rents and permits		265 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		116 25
Amount paid 1879, in premiums	\$1,305 13	
Amount paid 1879, real estate, buildings, etc	455 50	
Amount paid 1879, current expenses, other than premiums	783 89	
Amount remaining in treasury	38 84	
Amount deficit, including mortgage, etc		
Totals	\$2,583 36	\$2,583 36

BROWN COUNTY.

OFFICERS.—President, W. H. Breckenridge, Versailles; Vice-President, F. W. Rottger, Mt. Sterling; Secretary, John J. McDonnold, Mt. Sterling; Treasurer, R. P. Means, Mt. Sterling.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$3,078 82	
Amount received 1879, fees—gate and entrance.....		\$3,150 25
Amount received 1879, booth rents and permits.....		
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		45 00
Amount paid 1879, in premiums.....	1,807 75	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	1,442 35	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		3,083 87
Totals.....	\$6,328 92	\$6,328 92

BUREAU COUNTY.

OFFICERS.—President, A. C. Boggs, Princeton; Secretary, C. P. Bascom, Princeton; Treasurer, S. G. Paddock, Princeton.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report....		\$204 85
Amount deficit, last report.....	\$4,100 00	
Amount received 1879, fees—gate and entrance.....		3,919 02
Amount received 1879, booth rents and permits.....		209 50
Amount received, 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		142 00
Amount paid 1879, in premiums.....	2,447 75	
Amount paid 1879, real estate buildings, etc.....		
Amount paid 1879, current expenses, other than premiums.....	1,522 75	
Amount remaining in treasury.....	664 87	
Amount deficit, including mortgage, etc.....		4,100 00
Totals.....	\$8,735 37	\$8,735 37

CARROLL COUNTY.

OFFICERS.—President, Horatio C. Blake, Mt. Carroll; Vice-President, E. L. Byington, Lanark; Secretary, Don. R. Frazer, Mt. Carroll; Treasurer, Fremont Patterson, Mt. Carroll.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$32 10
Amount deficit, last report.....	\$1,487 50	
Amount received 1879, fees—gate and entrance.....		1,070 60
Amount received, 1879, booth rents and permits.....		135 99
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	1,972 81	
Amount paid 1879, real estate, buildings, etc.....	25 00	
Amount paid 1879, current expenses other than premiums.....	499 40	
Amount remaining in treasury.....	41 48	
Amount deficit including mortgages, etc.....		1,487 50
Total.....	\$3,406 19	\$3,406 19

CASS COUNTY.

OFFICERS.—President, John M. Epler, Virginia; Vice-President, P. A. Buraker, Virginia; Secretary, R. W. Rabourn, Virginia; Treasurer, Oswald Skiles, Virginia; Directors, Isaac M. Stribling, Henry Campbell, C. W. Savage, Robert Hall, Virginia; W. H. Thompson, Arenzville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$2,389 25	
Amount received 1879, fees—gate and entrance		\$1,325 75
Amount received 1879, booth rents and permits		306 25
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		214 35
Amount paid 1879, in premiums	1,067 82	
Amount paid 1879, real estate, buildings, etc	237 00	
Amount paid 1879, current expenses other than premiums	585 09	
Amount remaining in treasury	44 25	
Amount deficit, including mortgage, etc		2,370 06
Totals	\$4,316 41	\$4,316 41

CHAMPAIGN COUNTY.

OFFICERS.—President, E. E. Chester, Champaign; Secretary, H. J. Dunlap, Champaign; Treasurer, C. F. Columbia, Champaign.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$36 00
Amount deficit, last report	\$8,050 00	
Amount received 1879, fees—gate and entrance		1,593 25
Amount received 1879, booth rents and permits		479 50
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		
Amount paid 1879, in premiums	1,157 85	
Amount paid 1879, real estate, buildings, etc		
Amount paid 1879, current expenses other than premiums	691 49	
Amount remaining in treasury	359 41	
Amount deficit, including mortgage, etc		8,050 00
Totals	\$10,258 73	\$10,258 75

CLARK COUNTY.

OFFICERS.—President, Ham Sutton, Marshall; Vice-President, Elisha Hurst, Clark Center; Secretary, John Coughlan, Marshall; Treasurer, Clarence Bryan, Marshall.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit last report		
Amount received, 1879 fees—gate and entrance		\$400 00
Amount received 1879, booth rents and permits		100 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		75 24
Amount paid 1879, in premiums	\$675 24	
Amount paid 1879, real estate, buildings, etc		
Amount paid 1879, current expenses other than premiums		
Amount remaining in treasury		
Amount deficit, including mortgage, etc		
Totals	\$675 24	\$675 24

CLAY COUNTY.

OFFICERS.—President, J. I. McCawley, Clay City; Secretary, B. B. Thomas, Xenia; Treasurer, Miss Dora Rider, Flora; Executive Committee, Thomas Finity, Xenia; M. H. Presley, Flora; I. Mills, Clay City.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$3,135 90	
Amount received 1879, fees—gate and entrance		\$2,986 65
Amount received 1879, booth rents and permits		612 00
Amount received 1879, sale shares of stock		888 01
Amount received 1879, state appropriation		
Amount received 1879, other sources		14 75
Amount paid 1879, in premiums	2,218 75	
Amount paid 1879, real estate, buildings, etc	65 00	
Amount paid 1879, current expenses other than premiums	733 73	
Amount remaining in treasury		1,051 97
Amount deficit, including mortgage, etc		
Totals	\$6,153 38	\$6,153 38

COLES COUNTY.

OFFICERS.—President, S. D. Dole, Mattoon; Vice-Presidents, James Shoemaker, Loxa, I. J. Montfort, T. G. Chambers, Charleston; M. B. Valodin, Oakland; Secretary, R. S. Hodgen, Charleston; Treasurer, J. K. Decker, Charleston; Directors, E. R. Conely, Westfield, I. Flenner, Kansas; C. E. Wilson, Charleston; S. VanMeter, A. Miller, Mattoon.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report		\$4 32
Amount deficit last report	\$1,767 00	
Amount received 1879, fees—gate and entrance		3,043 10
Amount received 1879, booth rents and permits		265 60
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		229 50
Amount paid 1879, in premiums	1,779 50	
Amount paid 1879, real estate, buildings, etc	338 38	
Amount paid 1879, current expenses other than premiums	491 60	
Amount remaining in treasury	65 98	
Amount deficit, including mortgage, etc		800 00
Totals	\$4,442 52	\$4,442 52

CRAWFORD COUNTY.

OFFICERS.—President, P. P. Connett, Robinson; Vice-Presidents, A. C. Burner, G. Athey, Eaton; J. H. Taylor, Robinson; Secretary, W. Swaren, Robinson; Treasurer, Wm. Parker, Robinson.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$138 00
Amount deficit, last report		
Amount received 1889, fees—gate and entrance		1,485 00
Amount received 1879, booth rents and permits		310 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		
Amount paid 1879, in premiums	\$1,318 00	
Amount paid 1879, real estate, buildings, etc	186 15	
Amount paid 1879, current expenses other than premiums	339 20	
Amount remaining in treasury	189 65	
Amount deficit, including mortgage, etc		
Totals	\$2,033 00	\$2,033 00

CUMBERLAND COUNTY.

OFFICERS.—President, David Neal, Neoga; Secretary, Geo. Bruster, Majority Point; Treasurer, H. W. Green, Majority Point; Directors, Wm. Neal, Diona; Wm. Berry, John Green, Henry Seely, Majority Point; Harlow Park, Greenup.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$56 00
Amount deficit, last report.....	\$1,785 33	...
Amount received 1879, fees—gate and entrance.....		1,176 87
Amount received 1879, booth rents and permits.....		156 72
Amount received 1879, sale shares of stock.....		...
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources .....		...
Amount paid 1879, in premiums.....	794 50	...
Amount paid 1879, real estate, buildings, etc.....		...
Amount paid 1879, current expenses other than premiums.....	364 76	...
Amount remaining in treasury.....	185 00	...
Amount deficit, including mortgage, etc.....		1,640 00
Totals.....	\$3,129 59	\$3,129 59

DEKALB COUNTY.—Sycamore.

OFFICERS.—President, Hiram Holcomb, Sycamore; Vice-President, E. P. Safford, Sycamore; Secretary, Edwin Waite, Sycamore; Treasurer, B. F. Wyman, Sycamore.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		...
Amount deficit, last report.....	\$320 50	...
Amount received 1879, fees—gate and entrance.....		\$958 00
Amount received 1879, booth rents and permits.....		184 40
Amount received 1879, sale shares of stock.....		...
Amount received 1879, state appropriation.....		33 33
Amount received 1879, other sources.....		15 00
Amount paid 1879, in premiums	787 00	...
Amount paid 1879, real estate, buildings, etc.....		...
Amount paid 1879, current expenses other than premiums.....	289 32	...
Amount remaining in treasury .....		...
Amount deficit, including mortgage, etc.....		206 09
Totals.....	\$1,396 82	\$1,396 82

DEKALB COUNTY.—DeKalb.

OFFICERS.—President, J. B. Glidden, DeKalb; Vice-President, H. Eddy, DeKalb; Secretary, S. O. Vaughn, DeKalb; Treasurer, L. H. Post, DeKalb.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		...
Amount deficit, last report.....	\$650 00	...
Amount received 1879, fees—gate and entrance.....		\$527 75
Amount received 1879, booth rents and permits.....		137 50
Amount received 1879, sale shares of stock.....		...
Amount received 1879, state appropriation.....		33 33
Amount received 1879, other sources.....		...
Amount paid 1879, in premiums	739 00	...
Amount paid 1879, real estate, buildings, etc.....	134 58	...
Amount paid 1879, current expenses other than premiums.....	150 00	...
Amount remaining in treasury.....		...
Amount deficit, including mortgage, etc.....		975 00
Totals.....	\$1,073 58	\$1,073 58

DEWITT COUNTY.

OFFICERS.—President, James A. Wilson, Clinton; Vice-Presidents, Jacob Swigart, Farmer City, H. P. Smith, Clinton; Secretary, Lewis Campbell, Clinton; Treasurer, Edwin Welds, Clinton.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$44 45
Amount deficit, last report.....	\$1,205 55	
Amount received 1879, fees—gate and entrance.....		1,385 80
Amount received 1879, booth rents and permits.....		443 60
Amount received 1879, sale shares of stock.....		10 45
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		50 00
Amount paid 1879, in premiums.....	1,209 75	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	688 84	
Amount remaining in treasury.....	155 61	
Amount deficit, including mortgage, etc.....		1,205 55
Totals.....	\$3,239 85	\$3,239 85

DOUGLAS COUNTY.

OFFICERS.—President, Coleman Bright, Tuscola; Vice-President, F. M. Friend, Tuscola; Secretary, Chas. G. Eckhart, Tuscola; Treasurer, J. D. Higgins, Tuscola; Directors, I. Coster, Jas. Townsell, John Ervin, Wm. Howe, S. Waddell, A. M. Woody, John T. Irwin, O. J. Jones, John Gaines.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$32 90
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		957 78
Amount received 1879, booth rents and permits.....		250 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	\$725 48	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	578 91	
Amount remaining in treasury.....	6 35	
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,310 74	\$1,310 74

DuPAGE COUNTY.

OFFICERS.—President, Luther Bartlett, Bartlett; Secretary, A. S. Landon, Wheaton; Treasurer, H. W. Grote, Wheaton.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		\$7 08
Amount deficit last report.....	\$385 00	
Amount received 1879, fees—gate and entrance.....		652 60
Amount received 1879, booth rents and permits.....		117 75
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		435 50
Amount paid 1879, in premiums.....	728 75	
Amount paid 1879, real estate, buildings, etc.....	314 83	
Amount paid 1879, current expenses other than premiums.....	266 35	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		388 00
Totals.....	\$1,694 93	\$1,694 93

EDGAR COUNTY.

OFFICERS.—President, W. O. Wilson, Paris; Vice-Presidents, Samuel Graham, O'Neal Morris, F. R. Augustus, John Arthur, A. G. Walker, Paris; W. O. Pinnell, Kansas; Secretary, Walter Booth, Paris; Treasurer, R. N. Parish, Paris.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		\$957 00
Amount deficit last report.....		
Amount received 1879, fees—gate and entrance.....		3,807 61
Amount received 1879, booth rents and permits.....		350 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	\$2,343 00	
Amount paid 1879, real estate, buildings, etc.....	552 95	
Amount paid 1879, current expenses other than premiums.....	422 48	
Amount remaining in treasury.....	1,896 18	
Amount deficit including mortgage, etc.....		
Totals.....	\$5,214 61	\$5,214 61

EDWARDS COUNTY.

OFFICERS.—President, Joseph White, Albion; Vice-President, John Curtis, Albion; Secretary, M. Emmerson, Albion; Treasurer, George Weaver, Albion.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$343 96
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		2,000 00
Amount received 1879, booth rents and permits.....		196 40
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		287 00
Amount paid 1879, in premiums.....	\$1,241 25	
Amount paid 1879, real estate, buildings, etc.....	323 99	
Amount paid 1879, current expenses other than premiums.....	486 47	
Amount remaining in treasury.....	590 71	
Amount deficit, including mortgage, etc.....		
Totals.....	\$2,927 36	\$2,927 36

FAYETTE COUNTY.

OFFICERS.—President, John Thompson, Vandalia; Vice-Presidents, H. F. Jerauld, Robert Mitchell, Vandalia; Secretary, Chas. H. Smith, Vandalia; Treasurer, Simeon Perkins, Vandalia.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$1 00
Amount deficit, last report.....	\$205 00	
Amount received 1879, fees—gate and entrance.....		864 70
Amount received 1879, both rents and permits.....		
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		254 80
Amount paid 1879, in premiums.....	614 70	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	392 03	
Amount remaining in treasury.....	8 57	
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,220 30	\$1,220 30

FORD COUNTY.—Paxton.

OFFICERS.—President, A. Croft, Paxton; Secretary, G. W. Cruzen, Paxton; Treasurer, John M. Hall, Paxton.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		
Amount deficit last report.....		
Amount received 1879, fees—gate and entrance.....		\$1,016 50
Amount received 1879, booth rents and permits.....		72 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		100 00
Amount paid 1879, in premiums.....	\$1,087 75	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	200 75	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,288 50	\$1,288 50

FORD COUNTY.—Gibson City.

OFFICERS.—President, W. J. Murphy, Gibson City; Secretary, R. M. Smith, Gibson City; Treasurer, F. W. Beardsley, Gibson City.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		\$1,210 00
Amount received 1879, booth rents and permits.....		235 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	\$1,445 00	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	170 00	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		170 00
Totals.....	\$1,615 00	\$1,615 00

FRANKLIN COUNTY.

OFFICERS.—President, John R. Jones, Benton; Vice-President, P. S. Pope, Benton; Secretary, Wm. C. Phipps, Benton; Treasurer, A. D. Jackson, Benton.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$251 26
Amount deficit, last report.....		
Amount received, 1879, fees—gate and entrance.....		1,330 25
Amount received 1879, booth rents and permits.....		300 65
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	\$754 00	
Amount paid 1879, real estate, buildings, etc.....	530 75	
Amount paid 1879, current expenses other than premiums.....	489 91	
Amount remaining in treasury.....	207 60	
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,982 16	\$1,982 16

FULTON COUNTY.—Canton.

OFFICERS.—President, Inman Blackaby, Civer; Vice-President, John Prickett, Lewiston; Secretary, C. A. Emry, Canton; Treasurer, John R. Gardiner, Canton; Directors, John Fisher, D. F. Emry, S. S. Miller, Canton; A. Robb, Farmington; F. Putnam, Civer; L. Cassady, Vermont; H. L. Bryant, Lewiston.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$49 75
Amount deficit, last report	\$253 65	
Amount received 1879, fees—gate and entrance		1,712 25
Amount received 1879, booth rents and permits		329 55
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		893 00
Amount paid 1879, in premiums	1,775 50	
Amount paid 1879, real estate buildings, etc.		
Amount paid 1879, current expenses other than premiums	853 00	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.		
Totals	\$2,885 15	\$2,885 15

FULTON COUNTY.—Avon.

OFFICERS.—President, D. H. Gorham, Avon; Vice-Presidents, O. Chatterton, J. B. Hatch, S. Tompkins, L. M. Greene, Avon; Secretary, A. J. Churchill, Avon; Treasurer, O. J. Beam, Avon; Directors, J. F. Mings, A. S. Richardson, F. M. Nance, Jas. Kutchler, L. S. Woods, O. Crissey, W. H. Rose, Avon; E. Hawkins, Hermon; J. J. Serven, Prairie City.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report ..		\$80 97
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		3,364 00
Amount received 1879, booth rents and permits		412 00
Amount received 1879, sale shares of stock		100 00
Amount received 1879, state appropriation		
Amount received 1879, other sources		
Amount paid 1879, in premiums	\$2,883 00	
Amount paid 1879, real estate, buildings, etc.	200 00	
Amount paid 1879, current expenses other than premiums	720 00	
Amount remaining in treasury	133 97	
Amount deficit, including mortgage, etc.		
Totals	\$3,936 97	\$3,936 97

GALLATIN COUNTY.

OFFICERS.—President, M. M. Pool, Shawneetown; Vice-President, C. W. McGehee, Shawneetown; Secretary, John L. Robinson, Shawneetown; Treasurer, John D. Richeson, Shawneetown.

FINANCIAL EXHIBIT FOR 1879.

Amount in Treasury last report		\$87 80
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		3,250 50
Amount received 1879, booth rents and permits		714 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		
Amount paid 1879, in premiums	\$3,042 50	
Amount paid 1879, real estate, buildings, etc.	312 80	
Amount paid 1879, current expenses other than premiums	491 00	
Amount remaining in treasury	1,306 00	
Amount deficit, including mortgage, etc.		
Totals	\$4,152 30	\$4,152 30

GREENE COUNTY.

OFFICERS.—President, Geo. W. Davis, Carrollton; Vice-President, C. W. Brace, Kane; Secretary, N. J. Andrews, Carrollton; Treasurer, L. S. Eldred, Carrollton.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		\$595 33
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		3,370 00
Amount received 1879, booth rents and permits		425 50
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		384 00
Amount paid 1879, in premiums	\$1,895 50	
Amount paid 1879, real estate, buildings, etc	885 00	
Amount paid 1879, current expenses other than premiums	1,239 87	
Amount remaining in treasury	1,354 46	
Amount deficit, including mortgage, etc.....		
Totals.....	\$4,874 3	\$4,874 33

GRUNDY COUNTY.

OFFICERS.—President, W. T. Hopkins, Morris; Vice-Presidents, H. Gorham, Vienna; George W. Booth, Braceville; Wm. Weese, Plattville; Secretary, E. B. Fletcher, Morris; Treasurer, Seneca Tupper, Saratoga.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		
Amount deficit, last report	\$1,138 30	
Amount received 1879, fees—gate and entrance		\$1,356 17
Amount received 1879, booth rents and permits		20 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		407 04
Amount paid 1879, in premiums	1,999 50	
Amount paid 1879, real estate, buildings, etc	110 00	
Amount paid 1879, current expenses other than premiums	547 04	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.....		1,311 63
Totals.....	\$3,194 84	\$3,194 84

HAMILTON COUNTY.

OFFICERS.—President, L. Walker, McLeansboro; Secretary, James F. Leslie, McLeansboro; Corresponding Secretary, T. B. Stelle, McLeansboro; Treasurer, C. G. Cloud, McLeansboro.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		\$779 00
Amount received 1879, booth rents and permits		150 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		
Amount received 1879, other sources		
Amount paid 1879, in premiums	\$639 00	
Amount paid 1879, real estate, buildings, etc	200 00	
Amount paid 1879, current expenses other than premiums	115 00	
Amount remaining in treasury		
Amount deficit including mortgage, etc.....		25 00
Totals.....	\$954 00	\$954 00

HARDIN COUNTY.

OFFICERS.—President, Charles M. Ferrell, Elizabethtown; Vice-President, William N. Ayers, Elizabethtown; Secretary, James A. Lowry, Elizabethtown; Corresponding Secretary, L. F. Twitchell, Elizabethtown; Treasurer, T. A. McAmis, Elizabethtown.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		\$10 57
Amount deficit, last report	\$250 00	
Amount received 1879, fees—gate and entrance		912 10
Amount received 1879, booth rents and permits.....		217 50
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources.....		2 50
Amount paid 1879, in premiums	607 75	
Amount paid 1879, real estate, buildings, etc	52 10	
Amount paid 1879, current expenses other than premiums....	558 82	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.....		226 00
Totals.....	\$1,468 67	\$1,468 67

HENDERSON COUNTY.

OFFICERS.—President, Samuel Hutchinson, Kirkwood; Vice-President, H. M. Whiteman, Biggsville; Recording Secretary, R. A. McKinley, Biggsville; Corresponding Secretary, G. W. Holmes, Biggsville; Treasurer, Geo. McDill, Biggsville; Executive Committee, J. H. McDougall, W. M. Graham, P. D. Gibb, R. Gibson, Biggsville; W. A. Ives, James H. Woods, Oqnauka; Thos. G. Richey, Olena; Peter Groom, Raritan; P. D. Salter, Kirkwood.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report	\$330 00	
Amount received 1879, fees—gate and entrance		\$1,246 71
Amount received 1879, booth rents and permits.....		332 95
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources		107 35
Amount paid 1879, in premiums.....	1,434 75	
Amount paid 1879, real estate, buildings, etc.....	100 00	
Amount paid 1879, current expenses other than premiums.....	300 00	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.....		377 74
Totals	\$2,164 75	\$2,164 75

HENRY COUNTY.

OFFICERS.—President, N. C. Gilbert, Geneseo; Vice-President, A. A. Crane, Osco; Secretary, R. H. Hinman, Cambridge; Treasurer, W. H. Shepard, Cambridge.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$272 61
Amount deficit last report.....	\$3,100 00	
Amount received 1879, fees—gate and entrance		3,785 25
Amount received 1879, booth rents and permits.....		1,430 83
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		314 95
Amount paid 1879, in premiums.....	3,045 75	
Amount paid 1879, real estate, buildings, etc.....	153 44	
Amount paid 1879, current expenses other than premiums.....	618 30	
Amount remaining in treasury	548 65	
Amount deficit, including mortgage, etc.....		1,563 00
Totals.....	\$7,466 14	\$7,466 14

IROQUOIS COUNTY.

OFFICERS.—President, Wm. A. Boswell, Onarga; Vice-Presidents, A. J. Alexander, Gilman, Horace Pinney, Onarga, W. B. Booth, Ridgeland; Secretary, E. C. Hall, Onarga; Treasurer, C. C. Sedgwick, Onarga.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$1,026 54	
Amount received 1879, fees—gate and entrance.....		\$852 00
Amount received 1879, booth rents and permits.....		305 75
Amount received 1879, sale shares of stock.....		100 00
Amount received 1879, state appropriation.....		84 99
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	514 80	
Amount paid 1879, real estate, buildings, etc.....	270 00	
Amount paid 1879, current expenses other than premiums.....	402 50	
Amount remaining in treasury.....		1,771 10
Amount deficit, including mortgage, etc.....		
Totals.....	\$3,113 84	\$3,113 84

JACKSON COUNTY.

OFFICERS.—President, Robert A. Beasley, DeSoto; Secretary, John W. Grear, Murphysboro; Treasurer, Jefferson Jenkins, Murphysboro; Directors, R. A. Beasley, Jefferson Jenkins, O. J. Leaven, B. F. Will, Murphysboro; F. B. Hanks, Chester.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$300 00	
Amount received 1879, fees—gate and entrance.....		\$707 15
Amount received 1879, booth rents and permits.....		98 90
Amount received 1879, sale shares of stock.....		100 00
Amount received 1879, state appropriation.....		
Amount received, 1879, other sources.....		
Amount paid 1879, in premiums.....	550 20	
Amount paid 1879, real estate, buildings, etc.....	20 00	
Amount paid 1879, current expenses other than premiums.....	270 42	
Amount remaining in treasury.....	47 45	
Amount deficit, including mortgage, etc.....		900 00
Totals.....	\$1,206 05	\$1,206 05

JASPER COUNTY.

OFFICERS.—President, S. Bowman, Hunt City; Vice-President, G. Clark, Newton; Secretary, Frank Richardson, Newton.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		0 20
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		\$1,134 30
Amount received 1879, booth rents and permits.....		172 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		187 67
Amount paid 1879, in premiums.....	\$1,163 15	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	395 33	
Amount remaining in treasury.....	15 69	
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,574 17	\$1,574 17

JERSEY COUNTY.

OFFICERS.—President, Joseph M. Conklin, Jerseyville; Vice-President, C. C. Cummings, Jerseyville; Secretary, Morris R. Locke, Jerseyville; Treasurer, Horatio N. Wyckoff, Jerseyville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$176 73
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		5,805 70
Amount received 1879, booth rents and permits.....		1,562 45
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		641 50
Amount paid 1879, in premiums.....	\$4,318 00	
Amount paid 1879, real estate, buildings, etc.....	359 25	
Amount paid 1879, current expenses other than premiums.....	3,095 45	
Amount remaining in treasury.....	513 68	
Amount deficit, including mortgage, etc.....		
Totals.....	\$8,286 38	\$8,286 38

JoDAVIESS COUNTY.—Galena.

OFFICERS.—President, R. S. Norris, Galena; Vice-President, H. B. Chetlain, Galena; Secretary, Frank Bostwick, Galena; Treasurer, D. N. Corwith, Galena; Directors, E. M. Bouton, F. Chetlain, A. Sherrod, Galena; Chas. Speer, Hanover; S. T. Happer, Scales' Mound.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit last report.....	\$1,950 00	
Amount received 1879, fees—gate and entrance.....		\$1,480 95
Amount received 1879, booth rents and permits.....		104 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		704 65
Amount paid 1879, in premiums.....	890 00	
Amount paid 1879, real estate, buildings, etc.....	286 37	
Amount paid 1879, current expenses other than premiums.....	1,213 23	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		1,950 00
Totals.....	\$4,339 60	\$4,339 60

JoDAVIESS COUNTY.—Warren.

OFFICERS.—President, Robert Hawley, Warren; Vice-President, Wm. Young, Lena; Secretary, Joseph Hicks, Warren; Treasurer, A. C. Schadle, Warren; Directors, G. W. Pepoon, W. L. Gale, M. Lynch, Warren.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$10 00
Amount deficit, last report.....	\$829 17	
Amount received 1879, fees—gate and entrance.....		1,031 15
Amount received 1879, booth rents and permits.....		575 20
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		15 00
Amount paid 1879, in premiums.....	1,105 45	
Amount paid 1879, real estate, buildings, etc.....	82 91	
Amount paid 1879, current expenses other than premiums.....	345 01	
Amount remaining in treasury.....	96 98	
Amount deficit, including mortgage, etc.....		829 17
Totals.....	\$2,460 52	\$2,460 52

KANE COUNTY.

OFFICERS.—President, Jonathan Tefft, South Elgin; Vice-President, E. W. Thomson, Sugar Grove; Secretary, W. H. Pease, Geneva; Treasurer, S. W. Curtis, Geneva.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit last report.....		
Amount received 1879, fees—gate and entrance.....		\$823 20
Amount received 1879, booth rents and permits.....		174 05
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	\$621 75	
Amount paid 1879, real estate, buildings etc.....		
Amount paid 1879, current expenses other than premiums.....	439 75	
Amount remaining in treasury.....	35 75	
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,097 25	\$1,097 25

KANKAKEE COUNTY.

OFFICERS.—President, H. D. Worcester, Momence; Vice-President, Fayette Peck, Kankakee; Secretary, Noel Brosseau, Kankakee; Treasurer, Walter W. Todd, Kankakee.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$1,520 00	
Amount received 1879, fees—gate and entrance.....		\$2,106 70
Amount received 1879, booth rents and permits.....		365 95
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		8 00
Amount paid 1879, in premiums.....	1,321 00	
Amount paid 1879, real estate, buildings, etc.....	200 00	
Amount paid 1879, current expenses other than premiums.....	847 93	
Amount remaining in treasury.....	11 72	
Amount deficit, including mortgage, etc.....		1,329 00
Totals.....	\$3,009 65	\$3,009 65

KENDALL COUNTY.

OFFICERS.—President, John S. Seely, Oswego; Vice-Presidents, Geo. W. Earnest, A. Welch, Yorkville; Secretary, A. N. Beebe, Plano; Treasurer, I. B. Chattle, Oswego.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$57 70
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		732 50
Amount received 1879, booth rents and permits.....		40 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		138 58
Amount paid 1879, in premiums.....	\$536 84	
Amount paid 1879, real estate, buildings, etc.....	75 75	
Amount paid 1879, current expenses other than premiums.....	377 28	
Amount remaining in treasury.....	78 91	
Amount deficit, including mortgages, etc.....		
Totals.....	\$1,068 78	\$1,068 78

KNOX COUNTY.—Knoxville.

OFFICERS.—President, J. V. N. Standish, Galesburg; Vice-President, D. M. Eiker, Knoxville; Secretary, J. L. Rynearson, Knoxville; Treasurer, G. G. Stearns, Knoxville; Executive Committee, J. H. Lewis, J. F. Hubble, J. L. Cushman, J. C. Eiker, J. G. West, M. L. Overstreet, Jas. Sumner, A. Donason, F. Doolittle.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$89 25	
Amount received 1879, fees—gate and entrance		\$2,730 99
Amount received 1879, booth rents and permits		524 40
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		100 00
Amount paid 1879 in premiums	2,163 00	
Amount paid 1879, real estate, buildings, etc	50 00	
Amount paid 1879, current expenses other than premiums	912 00	
Amount remaining in treasury	21 14	
Amount deficit, including mortgage, etc		
Totals	\$3,505 39	\$3,505 39

LAKE COUNTY.—Libertyville.

OFFICERS.—President, George W. Schenck, Libertyville; Vice-Presidents, W. H. Appley, Libertyville, E. B. Phillips, Waukegan; Secretary, E. B. Messer, Libertyville; Treasurer, E. W. Parkhurst, Libertyville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$11 38
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		891 55
Amount received 1879, booth rents and permits		70 50
Amount received 1879, sale shares of stock		
Amount received 1879, State appropriation		100 00
Amount received 1879, other sources		81 12
Amount paid 1879, in premiums	\$414 00	
Amount paid 1879, real estate, buildings, etc		
Amount paid 1879, current expenses other than premiums	193 01	
Amount remaining in treasury	47 54	
Amount deficit, including mortgage, etc		
Totals	\$654 55	\$654 55

LAKE COUNTY.—Waukegan.

OFFICERS.—President, John F. Powell, Waukegan; Vice-President, A. Z. Blodgett, Waukegan; Secretary, James Y. Cory, Waukegan; Treasurer, Henry C. Hutchinson, Waukegan.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		\$3,863 91
Amount received 1879, both rents and permits		630 00
Amount received 1879, sale shares of stock		20 00
Amount received 1879, state appropriation		
Amount received 1879, other sources		170 00
Amount paid 1879, in premiums	\$2,583 75	
Amount paid 1879, real estate, buildings, etc	500 09	
Amount paid 1879, current expenses other than premiums	1,171 40	
Amount remaining in treasury	428 67	
Amount deficit, including mortgage, etc		
Totals	\$4,683 91	\$4,683 91

LASALLE COUNTY.

OFFICERS.—President, James H. Pickens, Ottawa; Vice-Presidents, Wm. H. Hull, Ransom Palmer, Ottawa; E. Howland, Prairie Center; Recording Secretary, A. M. Hoffman, Ottawa; Corresponding Secretary, John G. Armstrong, Ottawa; Treasurer, L. H. Eames, Ottawa.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$855 21
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....	3,060 26	
Amount received 1879, booth rents and permits.....	246 00	
Amount received 1879, sale shares and stock.....		
Amount received 1879, state appropriation.....	100 00	
Amount received 1879, other sources.....	664 50	
Amount paid 1879, in premiums.....	\$2,980 00	
Amount paid 1879, real estate, buildings, etc.....	1,048 46	
Amount paid 1879, current expenses other than premiums.....	840 24	
Amount remaining in treasury.....	51 27	
Amount deficit, including mortgage, etc.....		
Totals.....	\$4,925 97	\$4,925 97

LAWRENCE COUNTY.

OFFICERS.—President, James W. Whitaker, Lawrenceville; Vice-President, Wm. T. Buchanan, Bridgeport; Secretary, Daniel L. Gold, Lawrenceville; Treasurer, Edward Schmalhausen, Lawrenceville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$110 00
Amount deficit, last report.....	\$600 00	
Amount received 1879, fees—gate and entrance.....	699 50	
Amount received 1879, booth rents and permits.....	48 50	
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....	100 00	
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	575 00	
Amount paid 1879, real estate, buildings, etc.....	150 00	
Amount paid 1879, current expenses other than premiums.....	163 00	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		530 00
Totals.....	\$1,488 00	\$1,488 00

LIVINGSTON COUNTY.—Fairbury.

OFFICERS.—President, John Virgin, Fairbury; Vice-President, J. R. Strawn, Chatsworth; Secretary, H. L. Bruce, Fairbury; Treasurer, C. C. Bartlett, Fairbury.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$3 24
Amount deficit, last report.....	\$1,825 00	
Amount received 1879, fees—gate and entrance.....	3,324 00	
Amount received 1879, booth rents and permits.....	318 50	
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		481 77
Amount paid 1879, in premiums.....	2,894 61	
Amount paid 1879, real estate, buildings, etc.....	297 77	
Amount paid 1879, current expenses other than premiums.....	922 02	
Amount remaining in treasury.....	18 11	
Amount deficit, including mortgage, etc.....		1,825 00
Totals.....	\$5,952 51	\$5,952 51

LOGAN COUNTY.—Lincoln.

OFFICERS.—President, Joseph Ream, Lincoln; Vice-President, J. A. Critchfield, Broadwell; Secretary, A. B. Nicholson, Lincoln; Treasurer, H. L. Pierce, Lincoln.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$734 92	
Amount received 1879, fees—gate and entrance		\$4,387 02
Amount received 1879, booth rents and permits		444 35
Amount received 1879, sale shares of stock		50 00
Amount received 1879, state appropriation		788 35
Amount received 1879, other sources		
Amount paid 1879, in premiums	3,974 00	
Amount paid 1879, real estate, buildings, etc.	207 55	
Amount paid 1879, current expenses other than premiums	1,369 54	
Amount remaining in treasury		616 29
Amount deficit, including mortgage, etc.		
Totals	\$6,286 01	\$6,286 01

LOGAN COUNTY.—Atlanta.

OFFICERS.—President, Augustus Reise, Atlanta; Secretary, C. L. Downey, Atlanta; Treasurer, Frank Hoblitt, Atlanta; Directors, Ed. Stubblefield, Daniel McFarland, McLean; John H. Bell, Elias Harness, R. W. Burt, Atlanta.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$11 84
Amount deficit, last report	\$1,608 38	
Amount received 1879, fees—gate and entrance		1,735 95
Amount received 1879, booth rents and permits		872 25
Amount received 1879, sale shares of stock		50 00
Amount received 1879, state appropriation		875 00
Amount received 1879, other sources		
Amount paid 1879, in premiums	2,037 12	
Amount paid 1879, real estate, buildings, etc.	285 95	
Amount paid 1879, current expenses other than premiums	1,187 55	
Amount remaining in treasury	34 42	
Amount deficit, including mortgage, etc.		1,608 38
Totals	\$5,148 37	\$5,148 37

MACON COUNTY.

OFFICERS.—President, John R. Miller, Decatur; Vice-President, Volney Barber, Decatur; Secretary, M. B. Thomas, Decatur; Treasurer, Jacob H. Miller, Decatur.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		75
Amount deficit last report		
Amount received 1879, fees—gate and entrance		\$2,500 00
Amount received 1879, booth rents and permits		424 25
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		
Amount paid 1879, in premiums	\$2,100 00	
Amount paid 1879, real estate, buildings, etc		
Amount paid 1879, current expenses other than premiums	1,050 00	
Amount remaining in treasury		
Amount deficit, including mortgage, etc		125 00
Totals	\$3,150 00	\$3,150 00

MACOUPIN COUNTY.

OFFICERS.—President, G. J. Castle, Carlinville; Vice-President, John Carr, Carlinville; Secretary, B. P. McDaniel, Carlinville; Treasurer, J. B. Liston, Carlinville;

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$7 85
Amount deficit, last report.....	\$7,125 00	
Amount received 1879, fees—gate and entrance.....		4,886 95
Amount received 1879, booth rents and permits.....		998 25
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		410 00
Amount paid 1879, in premiums.....	1,778 50	
Amount paid 1879, real estate, buildings, etc.....	1,199 25	
Amount paid 1879, current expenses other than premiums.....	2,871 45	
Amount remaining in treasury.....	1 35	
Amount deficit, including mortgage, etc.....		7,125 00
Totals.....	\$12,975 55	\$12,975 55

MARION COUNTY.

OFFICERS.—President, M. C. Kell, Centralia; Vice-President, J. L. Johnson, Centralia; Secretary, J. N. Kerr, Centralia; Treasurer, F. Kohl, Centralia.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$104 50
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		1,794 60
Amount received 1879, booth rents and permits.....		587 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		122 65
Amount paid 1879, in premiums.....	\$1,427 50	
Amount paid 1879, real estate, buildings, etc.....	22 89	
Amount paid 1879, current expenses other than premiums.....	663 94	
Amount remaining in treasury.....	397 92	
Amount deficit, including mortgage, etc.....		
Totals.....	\$2,558 75	\$2,558 75

MARSHALL COUNTY.—Wenona.

OFFICERS.—President, John O. Dent, Wenona; Vice-President, C. W. Blandin, Rutland; Recording Secretary, Geo. G. McAdam, Wenona; Corresponding Secretary, Cadet Taylor, Wenona; Treasurer, E. P. Barker, Wenona.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$737 55
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		5,831 50
Amount received 1879, booth rents and permits.....		530 00
Amount received 1879, sale shares of stock.....		273 26
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		\$75 00
Amount paid 1879, in premiums.....	\$3,817 50	
Amount paid 1879, real estate, buildings, etc.....	159 92	
Amount paid 1879, current expenses other than premiums.....	3,387 52	
Amount remaining in treasury.....	482 37	
Amount deficit, including mortgage, etc.....		
Totals.....	\$7,797 31	\$7,797 31

MASSAC COUNTY.

OFFICERS.—President, J. C. Willis, Metropolis; Vice-President, Owen Bruner, Metropolis; Secretary, J. M. Stone, Metropolis; Treasurer, A. D. Davis, Metropolis; Directors, John Austin, W. P. Bruner, F. H. Meyer, Metropolis.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$239 28
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		833 20
Amount received 1879, booth rents and permits.....		354 00
Amount received 1879, sale shares of stock.....		100 00
Amount received 1879, state appropriation.....		163 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	\$428 25	
Amount paid 1879, real estate, buildings, etc.....	300 00	
Amount paid 1879, current expenses other than premiums.....	804 83	
Amount remaining in treasury.....	655 90	
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,689 48	\$1,689 48

McDONOUGH COUNTY.

OFFICERS.—President, W. O. Blaisdell, Macomb; Vice-President, Samuel Frost, Macomb; Secretary, W. H. Hainline, Macomb; Treasurer, I. N. Pearson, Macomb; Directors, Thompson Chandler, Joseph W. McIntosh, B. R. Westfall, Macomb; E. N. Hicks, Tennessee; Geo. W. Barker, Colman.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$3,517 24	
Amount received 1879, fees—gate and entrance.....		\$4,280 35
Amount received 1879, booth rents and permits.....		804 00
Amount received 1879, sale shares of stock.....		310 00
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		79 08
Amount paid 1879, in premiums.....	3,433 55	
Amount paid 1879, real estate buildings, etc.....	205 15	
Amount paid 1879, current expenses, other than premiums.....	2,060 07	
Amount remaining in treasury.....		4,052 85
Amount deficit, including mortgage, etc.....		
Totals.....	\$9,626 01	\$9,626 01

McHENRY COUNTY.—Woodstock.

OFFICERS.—President, J. S. Wheat, Woodstock; Vice-Presidents, Richard Wray, Richmond; Thos. McD. Richards, Woodstock; Secretary, L. J. Gates, Woodstock; Treasurer, A. L. Salisbury, Woodstock.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$35 75
Amount deficit, last report.....	\$2,000 00	
Amount received 1879, fees—gate and entrance.....		1,380 60
Amount received 1879, booth rents and permits.....		
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	941 50	
Amount paid 1879, real estate, buildings, etc.....	211 57	
Amount paid 1879, current expenses other than premiums.....	408 08	
Amount remaining in treasury.....		2,014 80
Amount deficit, including mortgage, etc.....		
Totals.....	\$3,561 15	\$3,561 15

McHENRY COUNTY.—Marengo.

OFFICERS.—President, L. W. Sheldon, Marengo; Vice-Presidents, W. A. Boies, H. Underwood, Marengo; Secretary, J. S. Rogers, Marengo; Treasurer, R. M. Patrick, Marengo.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		\$1,057 53
Amount received 1879, booth rents and permits.....		82 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	\$753 25	
Amount paid 1879, real estate, buildings, etc.....	100 00	
Amount paid 1879, current expenses, other than premiums.....	286 23	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,139 53	\$1,139 53

McLEAN COUNTY.

OFFICERS.—President, T. D. Hartson, Bloomington; Vice-Presidents, John O. Davis, Heyworth; B. F. Funk, Bloomington; Secretary, J. T. Didlake, Towanda; Treasurer, J. Brewster, Bloomington.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		
Amount deficit, last report.....	\$3,300 00	
Amount received 1879, fees—gate and entrance.....		\$3,016 37
Amount received 1879, booth rents and permits.....		1,615 95
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	1,697 93	
Amount paid 1879, real estate, buildings, etc.....	825 68	
Amount paid 1879, current expenses other than premiums.....	1,697 68	
Amount remaining in treasury.....	271 15	
Amount deficit, including mortgage, etc.....		3,300 00
Totals.....	\$13,032 32	\$13,032 32

MENARD COUNTY.—Petersburg.

OFFICERS.—President, Fred. Wilkinson, Petersburg; Vice-President, George B. Welsh, Tallula; Secretary, Robert S. Carter, Petersburg; Treasurer, Aaron Thompson, Petersburg.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$714 39	
Amount received 1879, fees—gate and entrance.....		\$2,564 00
Amount received, 1879, booth rents and permits.....		456 50
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		800 00
Amount paid 1879, in premiums.....	2,239 07	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	866 28	
Amount remaining in treasury.....	100 76	
Amount deficit including mortgages, etc.....		
Total.....	\$3,920 50	\$3,920 50

MERCER COUNTY.

OFFICERS.—President, Dan. W. Sedwick, Suez; Vice-President, James Feather, Sunbeam; Secretary, C. F. Durston, Aledo; Treasurer, D. F. Hindman, Aledo.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report.....		\$35 12
Amount deficit, last report	\$642 10	
Amount received 1879, fees—gate and entrance.....		2,884 82
Amount received 1879, booth rents and permits.....		633 65
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		24 85
Amount paid 1879, in premiums	2,126 30	
Amount paid 1879, real estate, buildings, etc. .	748 90	
Amount paid 1879, current expenses other than premiums.....	782 08	
Amount remaining in treasury	21 16	
Amount deficit, including mortgage, etc.....		642 10
Totals.....	\$4,320 54	\$4,320 54

MONTGOMERY COUNTY.

OFFICERS.—President, Isaac H. Shimer, Hillsboro; Vice-Presidents Moses Berry, Butler; John H. Beatty, Nokomis; Secretary and Treasurer, Wm. K. Jackson, Hillsboro; Directors, Wm. H. Brewer, Geo. B. Linxwiler, E. Miller, Hillsboro; Thomas Colvin, Butler; L. H. Thomas, Virden.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report	\$378 22	
Amount received 1879, fees—gate and entrance		\$690 70
Amount received 1879, booth rents and permits.....		125 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		80 70
Amount paid 1879, in premiums	330 00	
Amount paid 1879, real estate, buildings, etc	634 78	
Amount paid 1879, current expenses other than premiums.....	11 62	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.....		378 22
Totals.....	\$1,354 62	\$1,354 62

MORGAN COUNTY.

OFFICERS.—President, N. D. Graves, Jacksonville; Vice-Presidents, O. D. Fitzsimmons, Chas. Samples, Jacksonville; Secretary, Geo. N. Loomis, Jacksonville; Treasurer, B. F. Beasley, Jacksonville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report		\$40 82
Amount deficit last report		
Amount received 1879, fees—gate and entrance.....		4,508 48
Amount received 1879, booth rents and permits		95 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources		275 75
Amount paid 1879, in premiums	\$3,418 75	
Amount paid 1879, real estate, buildings, etc.....	733 67	
Amount paid 1879, current expenses other than premiums.....	736 01	
Amount remaining in treasury	81 62	
Amount deficit, including mortgage, etc		
Totals.....	\$5,020 05	\$5,020 05

MOULTRIE COUNTY.

OFFICERS.—President, O. A. Sargent, Windsor; Vice-Presidents, J. T. Hanell, John Dawson, Lovington; Secretary, G. W. Vaughn, Sullivan; Treasurer, P. B. Gillham, Sullivan; Directors, Dock Patterson, J. Q. Panell, E. Wilton, Sullivan; J. B. Taylor, S. P. Lilly, Coles; A. S. Younger, Bethany; C. C. Berks, Williamsburg.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report		
Amount received 1889, fees—gate and entrance		\$1,280 00
Amount received 1879, booth rents and permits		60 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		
Amount paid 1879, in premiums	\$1,116 00	
Amount paid 1879, real estate, buildings, etc		
Amount paid 1879, current expenses other than premiums	300 00	
Amount remaining in treasury	4 00	
Amount deficit, including mortgage, etc		
Totals	\$1,420 00	\$1,420 00

OGLE COUNTY.—Oregon.

OFFICERS.—President, John W. Hitt, Mt. Morris; Vice-President, Geo. W. Hormell, Oregon; Secretary, John T. Gantz, Oregon; Treasurer, B. F. Sheets, Oregon.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$124 79
Amount deficit, last report	\$1,681 00	
Amount received 1879, fees—gate and entrance		2,014 35
Amount received 1879, booth rents and permits		503 75
Amount received 1879, sale shares of stock		390 00
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		95 87
Amount paid 1879, in premiums	1,598 12	
Amount paid 1879, real estate, buildings, etc	200 00	
Amount paid 1879, current expenses other than premiums	917 44	
Amount remaining in treasury	513 20	
Amount deficit, including mortgage, etc		1,681 00
Totals	\$4,009 76	\$4,009 76

OGLE COUNTY.—Rochelle.

OFFICERS.—President, Wm. Stocking, Rochelle; Secretary, Geo. E. Turkington, Rochelle; Treasurer, John T. Miller, Rochelle.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$166 30
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		1,998 62
Amount received 1879, booth rents and permits		477 38
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		
Amount received 1879, other sources		165 00
Amount paid 1879, in premiums	\$2,142 55	
Amount paid 1879, real estate, buildings, etc		
Amount paid 1879, current expenses other than premiums	590 00	
Amount remaining in treasury	75 00	
Amount deficit, including mortgage, etc		
Totals	\$2,807 55	\$2,807 55

PEORIA COUNTY.

OFFICERS.—President, R. W. Whiting, Peoria; Vice-President, Nelson Burnham, Peoria; Secretary, Roswell Bills, Peoria; Treasurer, Washington Cockle, Peoria.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$3,575 25
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		8,380 50
Amount received 1879, booth rents and permits.....		1,960 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		3,000 00
Amount paid 1879, in premiums.....	\$10,306 00	
Amount paid 1879, real estate, buildings, etc.....	2,155 00	
Amount paid 1879, current expenses other than premiums.....	2,614 18	
Amount remaining in treasury.....	1,940 57	
Amount deficit, including mortgage, etc.....		
Totals.....	\$17,015 75	\$17,015 75

PERRY COUNTY.

OFFICERS.—President, Wm. K. Murphy, Pinckneyville; Secretary, W. S. D. Smith, Pinckneyville; Treasurer, E. H. Lemen, Pinckneyville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$346 63
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		2,272 75
Amount received 1879, booth rents and permits.....		406 50
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		138 75
Amount paid 1879, in premiums.....	\$1,122 50	
Amount paid 1879, real estate, buildings, etc.....	1,199 17	
Amount paid 1879, current expenses other than premiums.....	413 45	
Amount remaining in treasury.....	529 51	
Amount deficit, including mortgage, etc.....		
Totals.....	\$3,264 63	\$3,264 63

PIATT COUNTY.

OFFICERS.—President, Jesse W. Warner, Monticello; Vice-President, E. P. Thompson, Bement; Recording Secretary, H. D. Peters, Monticello; Corresponding Secretary, N. E. Rhodes, Monticello; Treasurer, H. V. Moore, Monticello; Directors, Wm. H. Plunk, Jesse Yoakum, Felix McKean, Monticello; Theo. Gross, Mackville; Wm. Voorhies, Milmine; Chas. F. Tenny, Bement; H. R. Coly, Galesville; D. H. Gardner, Farmer City.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$170 18	
Amount received 1879, fees—gate and entrance.....		\$2,427 50
Amount received 1879, booth rents and permits.....		532 45
Amount received 1879, sale shares of stock.....		30 00
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		50 00
Amount paid 1879, in premiums.....	1,535 00	
Amount paid 1879, real estate, buildings, etc.....	800 00	
Amount paid 1879, current expenses other than premiums.....	650 38	
Amount remaining in treasury.....	5 39	
Amount deficit, including mortgage, etc.....		21 00
Totals.....	\$3,180 95	\$3,180 95

PIKE COUNTY.

OFFICERS.—President, Allen Rush, Perry; Secretary, J. H. Crane, Pittsfield; Treasurer, S. Grigsby, Pittsfield; Directors, Wm. R. Wills, Dan C. Bates, C. B. Dustin, E. N. French, Henry Hall, Frank Zenn-bury, George Watson, Allen Rush.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$152 60
Amount deficit last report.....		
Amount received 1879, fees—gate and entrance.....		2,845 10
Amount received 1879, booth rents and permits.....		453 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		477 50
Amount paid 1879, in premiums.....	\$1,895 00	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	1,260 44	
Amount remaining in treasury.....	872 76	
Amount deficit, including mortgage, etc.....		
Totals.....	\$4,028 20	\$4,028 20

POPE COUNTY.

OFFICERS.—President, J. R. Steagall, Golconda; Recording Secretary, J. E. Y. Hanna, Golconda; Corresponding Secretary, Jas. U. Vineyard, Golconda; Treasurer, M. G. Bird, Golconda.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$1 91
Amount deficit, last report.....	\$134 60	
Amount received 1879, fees—gate and entrance.....		881 00
Amount received 1879, booth rents and permits.....		45 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	626 35	
Amount paid 1879, real estate buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	131 00	
Amount remaining in treasury.....	135 96	
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,027 91	\$1,027 91

PUTNAM COUNTY.

OFFICERS.—President, Wm. Allen, Hennepin; Vice-Presidents, Patrick Dore, Hennepin; E. V. Raley, Granville; J. L. Mills, Mt. Palatine; Secretary, Geo. C. Read, Hennepin; Treasurer, A. T. Purviance, Hennepin.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$224 50	
Amount received 1879, fees—gate and entrance.....		\$554 93
Amount received 1879, booth rents and permits.....		62 52
Amount received 1879, sale shares of stock.....		414 00
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		147 00
Amount paid 1879, in premiums.....	621 00	
Amount paid 1879, real estate, buildings, etc.....		
Amount paid 1879, current expenses other than premiums.....	372 95	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		
Totals.....	\$1,278 45	\$1,278 45

RANDOLPH COUNTY.—Sparta.

OFFICERS.—President, D. R. McMaster, Sparta; Vice-Presidents, Bryce Crawford, John W. Allen, Wm. C. Gordon, Sparta; Jon Andrew, Tilden; Jas. Lessley, Houston; John Roscow, Red Bud; J. Rabbe, Evansville; John McLaughlin, Coulterville; Chas. Robbins, Steel's Mills; John Wilson, Bremen; John J. Douglas, Chester; Secretary, M. E. Foster, Sparta; Treasurer, J. C. Perkins, Sparta.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report		
Amount deficit, last report	\$971 51	
Amount received 1879, fees—gate and entrance		\$1,928 90
Amount received 1879, booth rents and permits		408 70
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		1,028 22
Amount paid 1879, in premiums	1,699 25	
Amount paid 1879, real estate, buildings, etc.		
Amount paid 1879, current expenses other than premiums	1,433 08	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.		644 02
Totals	\$4,103 84	\$4,103 84

RANDOLPH COUNTY.—Chester.

OFFICERS.—President, Wm. McAdam, Chester; Vice-President, Wm. A. Gordon, Chester; Secretary, Wm. Schuchert, Chester; Treasurer, L. W. Morrison, Chester.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report		\$195 85
Amount deficit last report	\$1,300 00	
Amount received 1879, fees—gate and entrance		3,578 50
Amount received 1879, booth rents and permits		853 55
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		
Amount received 1879, other sources		66 00
Amount paid 1879, in premiums	2,010 00	
Amount paid 1879, real estate, buildings, etc.		
Amount paid 1879, current expenses other than premiums	1,111 80	
Amount remaining in treasury	271 60	
Amount deficit, including mortgage, etc.		
Totals	\$4,693 40	\$4,693 40

RICHLAND COUNTY.

OFFICERS.—President, Isaac Welty, Olney; Vice-President, Jas. H. Johnson, Olney; Secretary, W. F. Beck, Olney; Treasurer, W. C. Rickard, Olney.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$321 48
Amount deficit, last report		
Amount received 1879 fees—gate and entrance		2,184 81
Amount received 1879, booth rents and permits		630 60
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		823 60
Amount paid 1879, in premiums	\$2,358 00	
Amount paid 1879, real estate, buildings, etc.		
Amount paid 1879, current expenses other than premiums	800 23	
Amount remaining in treasury	902 26	
Amount deficit, including mortgage, etc.		
Totals	\$4,060 49	\$4,060 49

SANGAMON COUNTY.*

* OFFICERS.—President, John A. McClernand, Springfield; Secretary, W. H. Staley, Springfield; Treasurer, Henson Robinson, Springfield; Directors, J. M. Leonard, Chatham; J. S. Highmore, Rochester; S. N. Hitt, New Berlin; Geo. Pickrell, Wheatfield; J. R. Dunlap, Fancy Creek.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.		\$37 49
Amount deficit, last report		
Amount received, 1879, fees—gate and entrance		
Amount received 1879, booth rents and permits.		100 00
Amount received 1879, sale shares of stock.		45 00
Amount received 1879, state appropriation.		100 00
Amount received 1879, other sources		5,979 83
Amount paid 1879, in premiums (1878 Fair)	\$54 00	
Amount paid 1879, real estate, buildings, etc.	3,522 83	
Amount paid 1879, real estate, buildings, etc., for 1878.	2,310 00	
Amount paid 1879, current expenses other than premiums	285 49	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.		
Totals	\$6,162 32	\$6,162 32

*State Fair held on Society's grounds.

SCHUYLER COUNTY.

OFFICERS.—President, Edwin M. Anderson, Rushville; Vice-President, James Montooth, Rushville; Recording Secretary, J. C. Scripps, Rushville; Corresponding Secretary, S. B. Montgomery, Rushville; Treasurer, Simon Doyle, Rushville; Executive Committee, George H. Wilson, B. P. Preston, M. E. Cady, Fred Nell, F. E. Berry, Rushville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.		\$8 90
Amount deficit, last report	\$630 00	
Amount received 1879, fees—gate and entrance		1,951 75
Amount received 1879, booth rents and permits.		109 50
Amount received 1879, sale shares of stock.		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		775 00
Amount paid 1879, in premiums	1,474 75	
Amount paid 1879, real estate, buildings, etc.	1,127 00	
Amount paid 1879, current expenses other than premiums	663 40	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.		750 00
Totals	\$3,895 15	\$3,895 15

SHELBY COUNTY.

OFFICERS.—President, John A. Tackett, Shelbyville; Vice-President, W. W. Thornton, Shelbyville; Secretary, George A. Roberts, Shelbyville; Treasurer, W. C. Headen, Shelbyville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.		\$44 51
Amount deficit last report		
Amount received 1879, fees—gate and entrance		1,763 81
Amount received 1879, booth rents and permits.		189 00
Amount received 1879, sale shares of stock.		
Amount received 1879, state appropriation.		100 00
Amount received 1879, other sources		111 00
Amount paid 1879, in premiums	\$1,101 80	
Amount paid 1879, real estate, buildings, etc.	305 55	
Amount paid 1879, current expenses other than premiums	740 20	
Amount remaining in treasury	50 77	
Amount deficit, including mortgage, etc.		
Totals	\$2,198 32	\$2,198 32

STARK COUNTY.

OFFICERS.—President, Samuel Wrigley, Wyoming; Vice-President, Robert Grieve, Elmira; Secretary, B. G. Hall, Toulon; Treasurer, Samuel Burge, Toulon.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$547 06
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		2,607 75
Amount received 1879, booth rents and permits		468 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		592 35
Amount paid 1879, in premiums	\$2,278 75	
Amount paid 1879, real estate, buildings, etc.	184 45	
Amount paid 1879, current expenses other than premiums	1,071 18	
Amount remaining in treasury	780 78	
Amount deficit, including mortgage, etc.		
Totals	\$4,315 16	\$4,315 16

TAZEWELL COUNTY.

OFFICERS.—President, Ira B. Hall, Delevan; Vice-President, William Knott, Delavan; Secretary, Geo. W. Patten, Delavan; Treasurer, R. Frey, Delavan.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report		
Amount received 1879, fees—gate and entrance		\$2,815 25
Amount received 1879, booth rents and permits		446 50
Amount received 1879, sale shares of stock		3,600 00
Amount received 1879, state appropriation		
Amount received 1879, other sources		18 00
Amount paid 1879, in premiums	\$1,919 55	
Amount paid 1879, real estate, buildings, etc.	6,032 69	
Amount paid 1879, current expenses other than premiums	1,001 67	
Amount remaining in treasury		
Amount deficit, including mortgage, etc.		2,064 16
Totals	\$8,953 91	\$8,953 91

UNION COUNTY.

OFFICERS.—President, J. P. Reese, Cobden; Secretary, Alvan Cook, Jonesboro; Treasurer, Chas. Barringer, Jonesboro; Executive Committee, B. H. Anderson, A. H. Crowell, M. Hehenberger, Jonesboro; J. E. Lufkin, Anna.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$55 49	
Amount received 1879, fees—gate and entrance		2,301 33
Amount received 1879, booth rents and permits		\$480 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received, 1879, other sources		
Amount paid 1879, in premiums	1,617 20	
Amount paid 1879, real estate, buildings, etc.		
Amount paid 1879, current expenses other than premiums	1,184 73	
Amount remaining in treasury	23 91	
Amount deficit, including mortgage, etc.		
Totals	\$2,881 33	\$2,881 33

VERMILION COUNTY.—Catlin.

OFFICERS.—President, G. W. Tilton, Catlin; Vice-President, W. T. Sandusky, Catlin; Secretary, W. S. McClenathan, Catlin; Treasurer, D. B. Douglas, Catlin; Directors, Jonathan Gaines, Wm. Sandusky, Indianapolis; C. M. Baum, Pilot; Alonzo Stearns, Fairmont; M. B. Custer, Homer; Wm. Rice, Ridge Farm; Guy Sandusky, Catlin.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$50 00
Amount deficit, last report.....	\$470 00	
Amount received 1879, fees—gate and entrance.....		2,218 30
Amount received 1879, booth rents and permits.....		436 70
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		527 15
Amount paid 1879, in premiums.....		
Amount paid 1879, real estate, buildings, etc.....	2,040 50	
Amount paid 1879, current expenses other than premiums.....	702 05	
Amount remaining in treasury.....	579 00	
Amount deficit, including mortgage, etc.....		470 00
Totals.....	\$3,792 15	\$3,792 15

VERMILION COUNTY.—Danville.

OFFICERS.—President, L. T. Dickason, Danville; Vice-President, Jas. Knight, Danville; Secretary, W. M. Bandy, Danville; Treasurer, C. K. Mires, Danville.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$500 00
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		4,422 30
Amount received 1879, booth rents and permits.....		351 00
Amount received 1879, sale shares and stock.....		
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		
Amount paid 1879, in premiums.....	\$2,239 50	
Amount paid 1879, real estate, buildings, etc.....	1,646 14	
Amount paid 1879, current expenses other than premiums.....	987 66	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		300 00
Totals.....	\$5,573 30	\$5,573 30

VERMILION COUNTY,

OFFICERS.—President, J. A. Cunningham, Hoopeston; Vice-President, John L. Hamilton, Wateka; Secretary, Wm. Glaze, Hoopeston; Treasurer, Thomas Williams, Hoopeston.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$1,036 99	
Amount received 1879, fees—gate and entrance.....		\$2,046 08
Amount received 1879, booth rents and permits.....		835 00
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		72 72
Amount paid 1879 in premiums.....	2,108 00	
Amount paid 1879, real estate, buildings, etc.....	242 79	
Amount paid 1879, current expenses other than premiums...	696 14	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		230 17
Totals.....	\$4,083 02	\$4,083 02

WABASH COUNTY.

OFFICERS.—President, Joseph Litherland, Friendsville; Vice-President, Jacob Seiler, Mt. Carmel; Secretary, Thomas Stone, Mt. Carmel; Treasurer, S. R. Putnam, Mt. Carmel.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$1,160 00	
Amount received 1879, fees—gate and entrance		\$1,087 11
Amount received 1879, booth rents and permits		171 00
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		71 75
Amount paid 1879, in premiums	784 25	
Amount paid 1879, real estate, buildings, etc		
Amount paid 1879, current expenses other than premiums	615 61	
Amount remaining in treasury		1,160 00
Amount deficit, including mortgage, etc		
Totals	\$2,559 86	\$2,559 85

WARREN COUNTY.

OFFICERS.—President, John B. Meginnis, Monmouth; Vice-President, R. L. Patton, Monmouth; Secretary, Geo. C. Rankin, Monmouth; Treasurer, Robert M. Stevenson, Monmouth; Executive Committee, Robert Holloway, C. L. Buck, F. E. Harding, J. W. Marshall, L. D. Robinson, J. W. Sipper, Monmouth; J. W. Bridenthal, Lenox, D. C. Graham, Cameron; W. J. Smith, Kirkwood.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$5,794 00	
Amount received 1879, fees—gate and entrance		\$3,112 40
Amount received 1879, booth rents and permits		537 65
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		84 00
Amount paid 1879, in premiums	2,575 75	
Amount paid 1879, real estate, buildings, etc	800 00	
Amount paid 1879, current expenses other than premiums	758 80	
Amount remaining in treasury		5,894 00
Amount deficit, including mortgage, etc		
Totals	\$9,728 05	\$9,728 05

WAYNE COUNTY.

OFFICERS.—President, J. T. Flening, Fairfield; Vice-President, W. H. Robinson, Fairfield; Secretary, N. E. Roberts, Fairfield; Treasurer, Wm. J. Sailor, Fairfield; Directors, Sol. Koontz, Ewing Young, Wm. Shaeffer, Adam Rinard, O. P. Patterson, Wm. J. Sailor, N. C. Alexander, N. E. Roberts, J. S. Handley, Jas. Shaeffer, Wm. M. Murphy.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury last report		\$5 15
Amount deficit last report	\$1,050 00	
Amount received 1879, fees—gate and entrance		1,255 15
Amount received 1879, booth rents and permits		447 50
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		
Amount paid 1879, in premiums	1,246 00	
Amount paid 1879, real estate, buildings, etc	356 95	
Amount paid 1879, current expenses other than premiums	370 85	
Amount remaining in treasury		1,216 06
Amount deficit, including mortgage, etc		
Totals	\$3,023 80	\$3,023 80

WHITE COUNTY.

OFFICERS.—President, Jas R. Williams, Carmi; Vice-President, Elvis Stinnett, Carmi; Secretary, R. L. Organ, Carmi; Treasurer, James I. McClintock, Carmi.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		\$3,464 20
Amount received 1879, booth rents and permits.....		1 000 00
Amount received 1879, sale shares of stock.....		3,450 00
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		20 00
Amount paid 1879, in premiums.....	\$1,788 00	
Amount paid 1879, real estate, buildings, etc.....	6,248 69	
Amount paid 1879, current expenses other than premiums.....	277 65	
Amount remaining in treasury.....	309 98	
Amount deficit, including mortgage, etc.....		601 02
Totals.....	\$8,625 22	\$8,625 22

WHITESIDE COUNTY.—Sterling.

OFFICERS.—President, A. A. Terrell, Sterling; Vice-President, S. J. Baird, Sterling; Secretary, W. F. Eastman, Sterling; Treasurer, J. W. Alexander, Sterling.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		
Amount deficit, last report.....	\$1,706 20	
Amount received 1879, fees—gate and entrance.....		\$4,858 35
Amount received 1879, booth rents and permits.....		937 40
Amount received 1879, sale shares of stock.....		490 00
Amount received 1879, state appropriation.....		100 00
Amount received 1879, other sources.....		192 83
Amount paid 1879, in premiums.....	1,654 50	
Amount paid 1879, real estate, buildings, etc.....	1,191 40	
Amount paid 1879, current expenses other than premiums.....	3,326 48	
Amount remaining in treasury.....		
Amount deficit, including mortgage, etc.....		1,360 00
Totals.....	\$7,938 58	\$7,938 58

WHITESIDE COUNTY.—Morrison.

OFFICERS.—President, James M. Pratt, Pratt; Vice-President, Robert E. Logan, Morrison; Secretary, Edwin J. Congar, Morrison, Treasurer, Chas. Bent, Morrison.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$606 51
Amount deficit, last report.....		
Amount received 1879, fees—gate and entrance.....		2,081 15
Amount received 1879, booth rents and permits.....		670 25
Amount received 1879, sale shares of stock.....		
Amount received 1879, state appropriation.....		
Amount received 1879, other sources.....		252 15
Amount paid 1879, in premiums.....	\$1,484 50	
Amount paid 1879, real estate, buildings, etc.....	195 56	
Amount paid 1879, current expenses other than premiums.....	1,189 77	
Amount remaining in treasury.....	740 23	
Amount deficit, including mortgage, etc.....		
Totals.....	\$3,610 06	\$3,610 06

WHITESIDE COUNTY.—Albany.

OFFICERS.—President, E. H. Nevitt, Albany; Vice-President, D. J. Parker, Albany; Secretary, J. T. Happer, Albany; Treasurer, Warren Olds, Albany; Executive Committee, D. Nicewonger, Jas. H. Booth, Chas. George, Albany; C. D. Parker, Garden Plain.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		\$1 05
Amount deficit, last report	\$25 00	
Amount received 1879, fees—gate and entrance		333 65
Amount received 1879, booth rents and permits		126 55
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		
Amount received 1879, other sources		
Amount paid 1879 in premiums	100 00	
Amount paid 1879, real estate, buildings, etc		
Amount paid 1879, current expenses other than premiums	349 13	
Amount remaining in treasury	12 12	
Amount deficit, including mortgage, etc		25 00
Totals	\$436 25	\$436 25

WILL COUNTY.

OFFICERS.—President, A. Allen Francis, New Lenox; Secretary, W. T. Nelson, Wilmington; Treasurer, E. H. Akin, Joliet; Directors, Jacob A. Henry, L. E. Ingalls, Jacob Adler, C. E. Kircheval, George H. Monroe, Joliet; Freeman Gay, Elwood; Jas. L. Owen, Mokena; Selah Knapp, Lockport; Charles Snoad, Joliet.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$13,200 00	
Amount received 1879, fees—gate and entrance		\$1,965 73
Amount received 1879, booth rents and permits		133 00
Amount received 1879, sale shares of stock		1,355 63
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		516 50
Amount paid 1879, in premiums	1,805 00	
Amount paid 1879, real estate buildings, etc	800 00	
Amount paid 1879, current expenses other than premiums	1,865 91	
Amount remaining in treasury		
Amount deficit, including mortgages, etc		13,200 00
Totals	\$17,270 91	\$17,270 91

WILLIAMSON COUNTY.

OFFICERS.—President, R. M. Hundley, Marion; Vice-President, Chas. M. Kern, Marion; Secretary, L. A. Goddard, Marion; Treasurer, Zack Hudgens, Marion; Directors, Wm. E. Wiley, Alex. Hudgens, W. J. Pulley, W. H. Bundy, H. Hendrickson, Marion.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report		
Amount deficit, last report	\$170 70	
Amount received 1879, fees—gate and entrance		\$1,448 25
Amount received 1879, booth rents and permits		311 15
Amount received 1879, sale shares of stock		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources		200 00
Amount paid 1879, in premiums	978 00	
Amount paid 1879, real estate, buildings, etc	175 00	
Amount paid 1879, current expenses other than premiums	377 00	
Amount remaining in treasury	358 70	
Amount deficit, including mortgage, etc		
Totals	\$2,059 40	\$2,059 40

WINNEBAGO COUNTY.

OFFICERS.—President, C. O. Upton, Rockford; Vice-President, S. P. Crawford, Rockford; Secretary, H. P. Kimball, Rockford; Treasurer, G. A. Sanford, Rockford; Directors, L. B. Williams, Harrison; Lawrence McDonald, Pecatonica; John Smith, Argyle; J. R. Bartlett, J. C. Chappell, A. J. Enoch, John Lake, Rockford.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$43 26
Amount deficit, last report	\$8,250 00	
Amount received 1879, fees—gate and entrance.....		5,701 85
Amount received 1879, booth rents and permits.....		1,027 90
Amount received 1-79, sale shares of stock.....		
Amount received 1879, state appropriation		100 00
Amount received 1879, other sources.....		
Amount paid 1879, in premiums	2,756 20	
Amount paid 1879, real estate, buildings, etc	1,059 52	
Amount paid 1879, current expenses other than premiums	2,372 45	
Amount remaining in treasury	684 84	
Amount deficit, including mortgage, etc.		8,250 00
Totals.....	\$15,123 01	\$15,123 01

ILLINOIS STATE FAIR AND FAT STOCK SHOW.

FAIR, SPRINGFIELD, SEPT. 29—OCT. 4, 1879.

FAT STOCK SHOW, CHICAGO, NOVEMBER 10—15, 1879.

OFFICERS.—President, James R. Scott, Champaign; Ex-President, D. B. Gillham, Upper Alton; Secretary, S. D. Fisher, Springfield; Treasurer, John W. Bunn, Springfield.

FINANCIAL EXHIBIT FOR 1879.

Amount in treasury, last report.....		\$4,899 68
Amount deficit last report including debt covered by mortgage		•
Amount received in 1879 State Fair, fees—gate and entrance		20,798 50
Amount received in 1879, Fat Stock Show, fees—gate and entrance		4,680 08
Amount received 1879, booth rents and permits, State Fair.....		2,958 78
Amount received 1879, sale shares of stock		•
Amount received 1879, state appropriation		3,000 00
Amount received 1879, other sources		2,791 00
Amount paid 1879, in premiums, State Fair	\$14,503 96	
Amount paid 1879, in premiums, Fat Stock Show.....	4,221 73	
Amount paid 1879, in premiums, winter meeting	500 00	
Amount paid 1879, real estate, buildings and permanent improvements		•
Amount paid 1879, current expenses other than premiums, State Fair	11,817 32	
Amount paid 1879, current expenses other than premiums, Fat Stock Show	5,110 59	
Amount remaining in treasury.....	2,974 39	
Amount deficit, including debt covered by mortgage.....		•
Totals.....	\$39,127 99	\$39,127 99

EXHIBITIONS FOR 1879.

Departments.	Number of entries in each department.	Amount of premiums offered to each department.	Amount of premiums paid to each department.
A—Cattle, State Fair.....	616	\$3,495 00	\$3,200 00
A—Cattle, Fat Stock Show.....	303	2,750 00	2,310 00
B—Horses and Equestrianism.....	1,289	3,551 00	3,451 00
B—Mules and asses	80	450 00	340 00
C—Sheep, State Fair.....	456	1,290 00	990 00
C—Sheep, Fat Stock Show	284	750 00	800 00
D—Hogs, State Fair	516	1,485 00	1,475 00
D—Hogs, Fat Stock Show.....	142	525 00	455 00
E—Poultry, State Fair.....	454	812 00	509 00
E—Poultry, Fat Stock Show	14	120 00	65 00
F—Mechanic arts { Light machines, agricultural implements, stoves, castings, worked metals, household furniture, manufactures of various kinds engines, machinery, etc., vehicles, sewing and knitting machines, etc.....	233	180 00	175 00
G—Farm products { Grains, seeds, vegetables, butter, cheese, cakes, etc.....	655	711 00	626 00
G—Dairy products, Fat Stock Show.....	74	675 00	526 31
H—Horticulture and Floriculture { Trees, fruits, flowers, plants, canned and preserved fruits, jellies, pickles, etc.....	1,165	1,289 00	1,108 00
I—Fine arts { Musical instruments, sculpture, painting, drawing, wax, feathers, hair work, etc.....	214	96 00	92 00
K—Textile fabrics { Mill fabrics, household fabrics, needle work	995	557 00	517 00
L—Natural history { Botany, mineralogy, conchology, entomology, ichthyology, herpetology	19	235 00	205 00
M—Military prize drill.....	5	1,050 00	900 00
N—Education.....	157	305 00	305 00
Speed ring.....			
Miscellaneous { For articles not proper to be classified in any of the above departments.....			586 38
Winter meeting.....		450 00	500 00
Totals	7,651	\$20,776 00	\$19,225 69

JAB. R. SCOTT, President State Board of Agriculture.

S. D. FISHER, Secretary.

ILLINOIS AGRICULTURAL FAIRS—1879.

Table showing number of entries, amount of Premiums offered, and amount of Premiums paid by each Association on LIVE STOCK EXHIBIT.

County.	Location of Fair.	CATTLE.			HORSES AND EQUES- TRIANISM.			MULES AND ASSES.			SHEEP.			HOGS.		
		Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....
Adams.....	Camp Point....	95	\$614 00	\$439 00	331	\$653 00	\$560 00	35	\$64 00	\$49 00	65	\$136 00	\$123 00	184	\$295 00	\$277 00
Alexander.....																
Bond.....																
Boone.....	Belvidere....	78	282 00	111 75	125	265 00	159 00				81	96 00	57 00	64	153 00	80 25
Brown.....	Mt. Sterling..	62	229 50	201 50	261	603 50	463 00	23	72 00	57 00	52	58 00	53 00	83	325 00	224 00
Bureau.....	Princeton....	63	514 00	352 00	155	627 00	534 00	3	27 00	22 00	41	132 00	132 00	98	299 00	239 00
Calhoun.....																
Carroll.....	Mt. Carroll....	86	280 50	236 00	116	314 00	209 50				16	77 00	38 00	55	249 00	169 50
Cass.....	Virginia.....	39	349 50	261 00	208	411 00	368 00	8	49 50	25 50	18	102 00	77 50	24	220 50	118 50
Champaign.....	Champaign....	25	172 00	94 00	113	427 00	277 00				18	89 00	25 00	53	73 00	64 00
Christian.....																
Clark.....	Marshall....	82	143 50	95 65	138	292 00	250 40	7	57 00	12 00	8	50 50	12 00	13	80 00	80 00
Clay.....	Flora.....	33	414 00	170 25	67	261 00	214 50	8	100 00	39 50	49	87 00	75 00	44	128 00	105 00
Clayton.....																
Coles.....	Charleston....	53	525 50	340 50	183	406 00	397 00	9	55 00	42 50	19	85 50	45 50	56	168 00	155 50
Cook.....																
Crawford.....	Robinson....	29	226 00	141 00	91	244 00	203 00	12	64 00	47 00	26	85 00	61 00	36	151 00	94 00
Cumberland.....	Prairie City...	82	156 00	103 00	81	195 00	145 00	5	12 00	8 00	2	89 00	8 00	8	25 00	17 00
DeKalb.....	Sycamore....	47	496 00	149 00	146	290 00	224 00	4	18 00	13 00	81	93 00	75 00	42	60 00	47 00
DeKalb.....	DeKalb.....	35	120 00	60 00	54	250 00	196 00	12	34 00	23 00	60	70 00	50 00	41	60 00	28 00
DeWitt.....	Clinton.....	37	275 00	148 00	77	235 00	228 50	5	48 00	26 00	56	117 00	60 00	43	144 00	80 50
Douglas.....	Tuscola.....	46	226 00	85 85	163	338 00	221 85	5	78 00	14 45	6	26 00	6 80	40	137 00	74 80
Douglas.....	Wheaton....	53	262 50	172 00	52	184 00	150 00	3	13 00	8 00	32	30 00	48 00	5	56 00	14 00
Edgar.....	Paris.....	55	858 00	555 00	292	560 00	550 00	18	53 00	51 00	4	30 00	30 00	52	162 00	162 00
Edwards.....	Albion.....	57	301 50	189 50	194	445 00	425 00	8	41 00	26 00	18	92 00	60 00	34	229 00	92 50
Effingham.....																
Fayette.....	Vandalia....	87	155 50	118 75	92	173 50	122 25	10	42 50	16 45	44	75 00	40 25	47	87 00	38 55
Ford.....	Paxton.....	66	328 00	223 00	122	156 50	130 50	3	23 00	10 00	2	8 00	8 00	38	106 00	106 00
Ford.....	Gibson City...	54	182 00	182 00	122	210 00	210 00	18	37 00	32 00	10	16 00	16 00	70	102 00	102 00
Franklin.....	Benton.....	36	93 50	88 00	117	334 50	245 50	16	88 50	67 50	8	26 00	23 00	13	50 00	36 50
Fulton.....	Canton.....	51	516 00	157 00	206	423 00	222 00	1	85 00	6 00	49	122 00	81 00	124	334 00	91 00

Fulton.....	122	475 00	348 00	2221	500 00	470 00	...	78 00	...	60	88 00	88 00	133	372 00	367 00
Shawneetown.....	40	215 00	173 50	100	520 00	436 00	27	71 00	...	10	58 00	35 00	27	163 00	67 00
Gallatin.....	26	194 00	182 00	209	659 00	547 00	33	60 00	50 00	55	84 00	52 00	88	155 00	165 00
Greene.....	80	168 00	238 00	71	452 00	156 00	1	79 00	5 00	21	78 00	49 00	21	174 00	37 00
Grundy.....	27	200 00	55 00	66	450 00	240 00	15	175 00	50 00	9	50 00	18 00	10	45 00	15 00
Hamilton.....															
Haueek.....		75 00		50	179 50	164 00	14	58 50	50 00				5	21 50	12 50
Jardin.....	18	352 00	187 00	122	449 00	319 00	19	29 00	21 00	57	47 50	42 50	43	150 00	127 00
Elizabethtown.....	53	382 00	213 00	68	294 00	222 00	14	50 00	8 40	52	81 00	81 00	62	126 00	126 00
Henderson.....	15	324 00	103 00	150	321 00	80 80	7	50 00	8 40	5	8 00	17 00	22	102 00	20 40
Henry.....	35	324 00	57 00	108	279 00	138 00	13	120 50	45 50	5	39 00	17 00	2	65 00	5 00
Irquels.....	16	153 00	170 00	57	184 00	130 00	16	36 00	27 00	26	70 00	51 00	41	253 00	100 00
Murphysboro.....	20	240 00		108											
Jackson.....	57														
Jasper.....	57														
Jefferson.....	41	380 00	380 00	318	1,073 00	1,018 00	15	90 00	70 00	90	192 00	192 00	128	271 00	271 00
Jersey.....	41	149 00	114 00	120	324 00	263 00	7	21 00	15 00	23	43 00	39 00	20	50 00	49 00
JoDavless.....	67	159 50	139 50	72	123 50	117 00	6	16 50	16 50	20	24 00	24 00	19	36 50	37 00
Warren.....	67														
Johnson.....															
Kane.....	49	125 00	49 90	90	117 00	88 90	3	19 00	3 90	33	106 00	15 00	78	128 00	24 00
Kankakee.....	54	288 00	142 00	221	426 00	351 00	13	37 00	34 00	13	72 00	45 00	41	207 00	66 00
Kankakee.....	54	288 00	142 00	221	426 00	351 00	13	37 00	34 00	13	72 00	45 00	41	207 00	66 00
Bristol.....	105	510 00	237 00	303	638 00	289 00	16	35 00	50 00	101	123 00	103 00	88	216 00	81 00
Knox.....	43	520 00	237 00	303	638 00	289 00	16	35 00	50 00	101	123 00	103 00	88	216 00	81 00
Libertyville.....	34	241 50	19 85	80	135 00	82 50	1	17 00	2 25	22	63 00	46 85	5	143 00	9 00
Lake.....	73	639 50	241 50	80	343 50	252 50	108	293 00	199 00	53	235 00	199 00	53	225 00	114 00
Lake.....	73	639 50	241 50	80	343 50	252 50	108	293 00	199 00	53	235 00	199 00	53	225 00	114 00
Waukegan.....	118	670 00	44 00	260	985 00	579 00	99	120 00	120 00	143	204 00	169 00	82	386 00	64 00
Ottawa.....	24	140 00	97 00	29	77 00	60 00	12	30 00	17 00	70	125 00	118 00	51	175 00	96 00
Lawrenceville.....															
Lee.....	138	553 00	497 00	273	835 00	732 00	11	47 00	22 00	70	125 00	118 00	51	175 00	96 00
Fairbury.....	138	553 00	497 00	273	835 00	732 00	11	47 00	22 00	70	125 00	118 00	51	175 00	96 00
Lavngston.....	119	594 00	233 00	287	592 00	478 00	21	49 00	44 00	134	108 00	106 00	157	263 00	278 00
Logan.....	159	918 00	233 00	287	592 00	478 00	21	49 00	44 00	134	108 00	106 00	157	263 00	278 00
Logan.....	159	918 00	233 00	287	592 00	478 00	21	49 00	44 00	134	108 00	106 00	157	263 00	278 00
Macoupin.....	45	237 00	117 00	231	589 00	394 50	7	45 00	22 50	46	72 00	36 00	76	225 00	112 50
Macoupin.....	45	237 00	117 00	231	589 00	394 50	7	45 00	22 50	46	72 00	36 00	76	225 00	112 50
Madison.....															
Marion.....	136	1,004 00	896 00	322	830 00	744 00	10	104 00	55 00	79	204 00	195 00	225	306 00	300 00
Marion.....	136	1,004 00	896 00	322	830 00	744 00	10	104 00	55 00	79	204 00	195 00	225	306 00	300 00
Marshall.....															
Mason.....	16	44 50	34 25	53	144 50	104 50	10	45 50	28 00	30	44 50	42 00	1	16 00	1 00
Mascot.....	73	311 00	254 00	216	287 50	245 50	8	57 00	14 00	30	44 50	42 00	107	235 00	191 00
McDonough.....	73	311 00	254 00	216	287 50	245 50	8	57 00	14 00	30	44 50	42 00	107	235 00	191 00
McHenry.....	74	294 00	117 00	149	366 00	208 75	4	44 00	9 00	66	208 00	114 75	49	127 00	67 50
McHenry.....	74	294 00	117 00	149	366 00	208 75	4	44 00	9 00	66	208 00	114 75	49	127 00	67 50
Marengo.....	89	294 00	117 00	149	366 00	208 75	4	44 00	9 00	66	208 00	114 75	49	127 00	67 50
Bloomington.....	84	451 00	256 00	719	811 00	524 00	39	168 00	...	58	138 00	80 00	118	254 00	184 00
McLean.....	44	372 00	139 50	180	659 00	292 50	41	159 00	72 50	92	258 00	224 00	92	254 00	82 50
Petersburg.....	44	397 00	347 00	206	633 00	552 00	7	48 00	16 00	49	129 00	120 00	120	293 00	207 00
Menard.....															
Merced.....	72														
Monte Carlo.....	5	161 00	35 00	47	314 00	83 00	6	56 00	15 00	3	70 00	5 50	3	126 00	18 00
Montgomery.....	66	360 00	35 00	197	632 00	533 00	17	93 00	87 00	80	281 00	281 00	171	582 00	377 00
Hillsboro.....	66	360 00	35 00	197	632 00	533 00	17	93 00	87 00	80	281 00	281 00	171	582 00	377 00
Morgan.....	33	259 00	191 00	96	471 00	426 00	15	58 00	50 00	25	58 00	50 00	34	132 00	119 00
Montate.....	40	455 00	150 50	91	543 00	386 50	9	36 00	22 00	108	146 00	149 00	29	150 00	56 00
Oregon.....	107	676 00	257 00	202	420 50	403 50	9	36 00	22 00	108	146 00	149 00	29	150 00	56 00
Rockelle.....	107	676 00	257 00	202	420 50	403 50	9	36 00	22 00	108	146 00	149 00	29	150 00	56 00
Orle.....	112	755 00	595 00	276	946 00	768 00	6	59 00	26 00	53	162 00	162 00	94	280 00	187 00
Peoria.....	23	108 50	47 00	80	245 00	245 00	6	59 00	26 00	53	162 00	162 00	94	280 00	187 00
Perry.....	23	108 50	47 00	80	245 00	245 00	6	59 00	26 00	53	162 00	162 00	94	280 00	187 00
Pineknayville.....	53	473 00	234 00	871	325 00	232 50	1	27 50	2 50	15	48 00	32 00	12	62 00	40 00
Monticello.....	53	473 00	234 00	871	325 00	232 50	1	27 50	2 50	15	48 00	32 00	12	62 00	40 00

Live Stock Exhibit—Continued.

Counties.	Location of Fair.	CATTLE.			HORSES AND EQUES- TRIANISM.			MULES AND ASSES.			SHEEP.			HOGS.		
		Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....
Pike.....	Pittsfield.....	17	\$201 00	\$104 00	162	\$349 00	\$384 00	22	\$65 00	\$65 00	31	\$114 00	\$106 00	99	\$199 00	\$176 00
Pope.....	Golconda.....	24	50 00	42 00	75	166 00	166 00	19	76 00	60 00	23	54 00	53 00	13	53 00	42 00
Pulaski.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pulaski.....	Henrieville.....	24	99 00	62 00	72	203 00	294 00	5	33 00	22 00	14	80 00	82 00	62	125 00	122 00
Pulaski.....	Henrieville.....	66	399 00	210 00	85	309 00	281 00	47	92 00	47 00	26	104 00	78 00	30	318 00	114 00
Randolph.....	Sparta.....	34	880 00	341 00	77	346 00	316 00	14	103 00	31 00	23	93 00	53 00	22	164 00	165 00
Randolph.....	Chester.....	34	621 00	318 00	98	287 00	204 00	7	65 00	38 00	21	72 00	62 00	67	365 00	202 00
Randolph.....	Olney.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rock Island.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Line.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sangamon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schuyler.....	Rushville.....	31	327 50	171 00	235	505 00	402 50	20	36 00	36 00	44	73 00	69 00	64	127 00	120 00
Scott.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shelby.....	Shelbyville.....	45	255 00	241 00	79	245 00	197 00	10	46 00	37 00	14	62 00	45 00	9	72 00	52 00
Shelby.....	Touan.....	57	757 00	265 00	171	671 00	687 00	11	79 50	40 00	68	169 00	101 00	78	210 00	177 00
St. Clair.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stephenson.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tazewell.....	Delevan.....	71	471 00	350 00	311	441 00	408 00	4	40 00	15 00	80	80 00	71 00	108	319 00	237 00
Union.....	Jonestown.....	60	291 25	250 00	164	224 00	224 00	40	117 0	110 00	26	80 50	75 00	30	126 00	120 00
Vermilion.....	Carlin.....	71	564 00	458 00	185	378 00	308 00	12	63 00	20 00	70	100 00	71 00	63	165 00	110 00
Vermilion.....	Danville.....	47	477 00	477 00	142	1,716 00	1,716 00	8	39 00	21 00	30	68 00	66 00	102	200 00	200 00
Vermilion.....	Hooperson.....	90	594 00	524 00	239	408 00	363 00	25	55 00	46 00	54	91 00	91 00	161	180 00	155 00
Warren.....	Mt. Carmel.....	29	194 00	158 00	46	197 00	117 00	5	54 00	32 00	25	43 00	43 00	11	31 50	31 50
Washington.....	Monmouth.....	44	249 50	223 00	224	636 50	651 00	2	30 00	6 00	79	98 00	98 00	37	215 00	215 00
Wayne.....	Fairfield.....	40	388 00	157 00	91	431 00	287 00	14	59 00	50 00	47	104 00	92 00	62	156 00	120 00
White.....	Carmel.....	39	1,074 00	341 00	159	565 00	478 00	14	53 00	43 00	19	103 00	86 00	35	152 00	85 00
Whiteside.....	Sterling.....	90	204 00	247 00	81	229 00	180 00	2	16 00	5 00	33	97 00	87 00	33	70 00	70 00
Whiteside.....	Korrison.....	57	200 00	162 00	141	226 00	163 00	6	19 00	9 00	72	99 00	51 00	33	114 00	92 00
Whiteside.....	Albany.....	27	151 00	91 00	73	91 00	163 00	5	18 00	5 00	5	18 00	17 00	17	50 00	50 00
Will.....	Jolet.....	82	403 00	219 00	172	550 00	385 00	2	57 00	6 00	36	126 00	72 00	103	313 00	248 00
Williamson.....	Marion.....	30	243 00	130 00	67	295 00	212 00	18	89 00	70 00	14	82 00	82 00	16	82 00	27 00
Woodford.....	Rockford.....	124	504 00	328 00	199	342 00	319 00	.....	.....	.....	94	86 00	94 00	117	164 00	117 00
Woodford.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
State Fair.....	Springfield.....	616	3,495 00	\$ 290 00	1,268	3,551 00	3,451 00	60	450 00	340 0	456	1,290 00	990 00	516	1,485 00	1,475 00
State Fair.....	Chicago.....	303	2,750 00	2,310 00	.....	.....	.....	284	750 00	890 00	.....	.....	890 00	142	525 00	1,455 00
Fat Stock Show.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	.....	6,303	\$39,881 25	\$25,992 90	15,707	\$43,498 00	\$33,643 60	991	\$4,927 50	\$2,770 45	4,762	\$10,124 50	\$7,650 70	6,043	\$17,296 00	\$12,458 70

Exhibit Illinois Agricultural Fairs, 1879.

Counties.	Location of Fair.	POULTRY.			MECHANIC ARTS.			FARM PRODUCTS.			HORTICULTURE AND FLORICULTURE.			FINE ARTS.		
		Number of entries.	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered..	Amount premiums paid. . .	Number of entries ..	Amount premiums offered...	Amount premiums paid.....
Adams	Camp Point ..	47	\$52 50	\$42 50	47	\$76 00	\$68 00	401	\$151 75	\$119 25	575	\$204 00	\$195 50	89	\$84 50	\$53 00
Alexander .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boone	Belvidere	42	66 00	26 62	88	209 00	11 00	93	76 00	42 38	75	79 00	51 75	70	87 00	33 75
Brown	Mt Sterling ..	20	47 00	20 50	60	97 00	36 75	178	91 50	53 25	253	77 00	73 25	24	21 00	17 00
Bureau	Princeton	86	93 00	50 50	79	86 00	35 00	132	133 00	79 00	336	19 50	185 50	23	62 50	24 50
Cathoun .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carroll	Mt. Carroll ..	29	30 50	26 00	70	86 00	29 50	168	23 00	22 00	162	69 00	60 00	27	225 00	157 21
Cass	Virginia	6	33 00	6 00	5	76 50	23 00	103	48 75	43 25	330	125 50	110 00	37	32 50	40 00
Champaign	Champaign ..	155	81 00	59 00	90	90 00	69 00	210	61 00	52 00	212	210 00	123 00	28	36 00	21 00
Christian .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clark	Marshall	30	27 50	12 00	26	27 50	22 00	67	41 50	23 60	97	37 50	59 20	.....	.....	.....
Clay	Flora	21	50 00	12 00	69	173 00	89 25	86	62 00	62 00	223	169 00	63 00	24	104 00	66 00
Clinton .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coles	Charleston ..	50	66 00	48 00	36	148 50	60 00	168	90 50	69 50	369	141 50	126 50	72	81 50	35 50
Cook .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crawford	Robinson	22	24 00	14 00	19	135 00	10 00	253	113 00	92 00	232	112 00	10 00	12	.....	.....
Cumberland	Prairie City ..	9	13 50	10 50	.....	.....	.....	18	40 00	19 00	42	50 00	36 00	2	.....	.....
Dekalb .....	.....	64	48 00	25 00	.....	.....	.....	70	82 00	58 00	98	96 00	91 00	.....	10 00	.....
Dekalb .....	.....	12	8 00	6 00	40	.....	.....	75	23 00	7 00	150	20 00	6 00	.....	.....	.....
Dekalb .....	.....	56	19 00	39 00	107	101 00	31 25	107	60 00	47 00	164	15 00	65 00	33	20 00	5 00
Dewitt	Clinton	170	30 00	1 70	26	162 00	1 25	193	168 00	75 23	13	113 50	17 00	17	28 00	15 50
Douglas .....	.....	7	60 50	15 25	15	28 00	18 00	192	60 00	46 00	9	17 00	13 00	24	28 00	4 25
DuPage	Wharton	26	60 50	117 00	388	340 00	210 00	838	373 00	259 00	676	259 00	270 00	67	83 00	68 00
Edgar	Paris	126	144 00	12 50	29	144 50	70 00	219	104 25	74 50	31	3 00	15 00	10	15 00	6 50
Edwards	Albion	14	19 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Emmahan .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ray ete	Vandalia	22	15 00	9 95	18	82 00	12 45	386	217 00	115 55	97	85 50	38 20	20	24 00	10 80
.....	.....	36	20 00	18 00	16	.....	.....	110	56 00	41 50	131	76 50	47 50	22	22 00	4 25
.....	.....	43	63 00	59 00	14	20 00	20 00	81	60 00	60 00	199	75 00	75 00	23	20 00	.....
.....	.....	32	13 50	10 50	7	.....	.....	100	31 50	28 00	199	40 00	27 50	2	.....	.....
Franklin	Benton	98	47 00	43 00	36	362 00	95 00	366	239 00	167 00	591	37 00	22 50	87	121 00	41 00
Fulton .....	.....	75	50 00	35 00	23	83 00	67 00	619	130 00	115 00	410	130 00	170 00	130	85 00	73 00
.....	.....	82	93 00	26 00	11	100 00	22 00	143	85 00	68 50	143	119 00	27 75	30	17 00	11 75
Gallatin	Shawneetown ..	25	71 50	58 00	62	198 00	138 00	273	95 00	87 00	444	1 50	106 50	54	84 00	54 50
Greene	Carrollton ..	28	230 00	20 00	31	.....	.....	78	238 00	83 50	58	189 00	78 00	4	131 00	5 00
Grady	Morris .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton	McLeansboro ..	5	14 00	4 00	100	.....	.....	.....	250 00	65 00	30	100 00	35 00	10	.....	.....

Exhibit Illinois Agricultural Fairs, 1879—Continued.

Counties.	Location of Fair.	POULTRY.			MECHANIC ARTS.			FARM PRODUCTS.			HORTICULTURE AND FLORICULTURE.			FINE ARTS.		
		Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....	Number of entries....	Amount premiums offered....	Amount premiums paid.....
Hardin.....	Elizabethtown	6	\$18 50	\$7 50	13	\$46 50	\$12 00	39	\$71 50	\$41 50	16	\$36 75	\$14 50	5	\$16 75	\$3 90
Henderson...	Biggsville...	38	28 25	28 25	25	25 00	21 00	177	56 00	47 50	355	116 00	137 50	21	15 00	9 00
Henry.....	Cambridge...	144	88 00	80 00	28	67 00	34 00	179	130 00	117 00	418	198 50	179 00	105	110 50	80 00
Iroquois.....	Onarga.....	32	27 00	4 80	28	60 50	9 80	70	33 60	7 80	189	104 50	22 00	5	10 00	1 40
Jackson.....	Murphysboro.	22	24 00	13 50	12	120 00	7 00	103	55 65	35 80	93	51 70	24 20	9	.....	.....
Jasper.....	Newton.....	10	15 00	3 60	22	.....	.....	30	60 00	51 55	29	50 00	50 00	15	15 00	15 00
Jefferson...	Jerseyville...	139	225 00	61 00	120	357 00	284 00	296	201 00	184 00	603	261 00	254 00	642	318 00	280 00
Jersey.....	Galeua.....	28	23 00	23 00	42	139 00	71 00	108	55 00	40 00	62	142 00	90 00	12	39 00	10 00
Jolliavess...	Warren.....	68	90 00	49 50	28	.....	.....	113	44 00	33 30	9	11 50	7 20	12	23 50	9 45
Johnson...	Elgin.....	25	46 00	3 00	16	.....	.....	150	108 50	28 25	65	63 00	12 60	67	55 00	16 60
Kane.....	Kankakee...	78	54 00	31 50	8	30 00	12 00	208	170 00	140 50	13	41 00	41 00	38	66 00	35 50
Kendall....	Bristol.....	14	35 00	6 18	65	150 00	34 94	174	130 00	109 00	74	50 00	28 27	80	67 00	38 82
Knox.....	Knoxville...	64	81 00	72 00	68	102 00	65 00	298	160 00	109 00	430	181 00	176 00	86	123 00	81 00
Lake.....	Libertyville.	21	30 50	10 50	34	29 50	8 62	97	57 00	28 50	47	44 00	24 75	14	18 25	8 25
Lake.....	Waukegan...	180	285 00	96 50	63	105 00	59 50	422	213 00	200 50	298	123 00	89 00	133	75 00	55 75
LaSalle....	Ottawa.....	76	254 00	51 00	421	100 00	80 00	125	119 00	100 00	14	536 00	535 00	75	144 00	69 00
Lawrence...	Lawrenceville	13	15 00	9 00	14	75 00	5 00	131	130 00	95 00	14	25 00	6 00	14	35 00	8 00
Lee.....	Livingston...	81	81 00	44 00	84	167 00	94 00	340	139 75	121 75	627	107 25	172 61	65	51 25	41 25
Legan.....	Lincoln.....	227	115 50	98 50	93	127 00	92 00	728	136 00	238 50	1,155	155 25	259 25	278	127 00	126 00
Logan.....	Atlanta.....	58	81 00	52 00	46	97 00	59 12	468	143 00	133 00	1,217	155 00	192 00	83	76 00	61 00
Macoupin...	Decatur.....	124	61 50	31 50	109	51 00	53 00	83	49 50	27 50	58	61 00	22 00	22	.....	.....
Madison....	Carlinville...	99	90 00	45 00	167	307 00	103 50	316	233 00	66 50	149	84 00	42 00	56	81 09	38 00
Marion.....	Centralla...	25	50 00	21 00	62	141 00	89 00	93	69 00	45 50	301	159 00	109 50	31	57 00	31 00
Marshall...	Wendona...	94	88 00	55 00	127	254 00	162 00	606	192 50	175 50	596	232 50	218 00	40	51 00	48 00
Mason.....	Metropolis...	11	11 00	5 50	7	65 00	15 00	60	89 50	62 00	12	20 00	8 50	43	35 50	23 00
Massac.....	Macomb.....	92	102 75	51 75	87	205 50	89 50	259	97 07	85 80	51	59 25	36 50	51	66 00	23 00
McDonough	Woodstock...	64	40 00	21 50	38	.....	.....	244	147 00	78 00	42	70 00	23 25	51	66 00	24 75
McHenry....	Marengo.....	21	23 50	8 25	26	.....	.....	194	74 50	68 50	209	102 50	68 00	80	24 50	16 50
McLean.....	Bloomington.	102	108 00	86 63	132	.....	.....	214	162 00	90 00	104	149 00	105 00	67	107 00	33 50
Menard.....	Petersburg...	72	94 00	34 00	46	76 00	28 00	52	30 00	17 57	104	183 00	96 00	71	.....	.....

	70	81 00	54 00	109	108 00	48 00	288	130 00	121 00	942	256 00	230 00	65	106 00	50 00
Mercer															
Alledo															
Hillsboro	28	69 00	24 20	47	151 00	23 40	101	80 00	22 00	184	87 00	98 40	20	40 00	16 00
Montgomery	38	98 00	69 00	67	240 00	147 50	31	69 00	44 00	718	218 00	262 50	102	133 95	46 75
Morgan	37	56 50	42 00	7	49 00	15 00	81	42 00	37 00	127	97 00	85 00	19	31 00	23 00
Moultrie	38	125 00	48 00	41	88 00	22 00	154	134 00	50 00	107	113 00	52 75	39	51 50	23 25
Ogle	39	44 00	21 50	111	120 00	28 00	83	134 50	50 00	86	183 00	37 50	37	34 50	27 00
Rochelle	50	91 00	75 00	15	50 00	25 00	33	134 50	50 00	86	70 00	30 00	12	130 00	25 00
Peoria	69	98 00	15 00	15	50 00	25 00	33	134 50	50 00	86	70 00	30 00	12	130 00	25 00
Perry	8	21 00	8 00	17	18 00	10 00	102	60 00	49 50	71	22 60	14 00	4	6 00	1 50
Pinckneyville	8	21 00	8 00	17	18 00	10 00	102	60 00	49 50	71	22 60	14 00	4	6 00	1 50
Monticello	35	50 00	20 00	12	10 00	10 00	53	60 00	21 00	53	66 00	20 50	5	11 50	4 00
Pittsfield	54	44 00	44 00	12	10 00	10 00	53	60 00	21 00	100	55 00	35 50	98	67 00	62 00
Pike	3	6 00	3 00	29	50 00	28 50	100	53 00	51 00	100	33 00	35 50	8	6 00	4 00
Galeonda	3	6 00	3 00	29	50 00	28 50	100	103 40	92 00	100	33 00	35 50	8	6 00	4 00
Pulaski	8	14 00	7 00	35	42 00	25 00	53	43 00	22 50	96	58 50	27 00	57	67 50	45 00
Putnam	8	14 00	7 00	35	42 00	25 00	53	43 00	22 50	96	58 50	27 00	57	67 50	45 00
Randolph	50	25 50	21 00	32	117 50	62 50	235	74 00	80 50	519	85 50	92 00	30	63 00	32 00
Randolph	50	47 00	47 00	32	117 50	62 50	235	74 00	80 50	519	85 50	92 00	30	63 00	32 00
Chester	50	90 00	50 00	62	150 00	48 00	139	119 00	67 00	145	128 00	45 00	37	70 00	24 00
Richland															
Rock Island															
Saline															
Sanger															
Saugan	40	27 00	17 00	8	143 95	21 50	277	85 50	77 75	467	121 50	105 00	115	94 75	65 25
Shelbyville	21	21 00	20 00	17	75 00	34 00	123	70 00	45 50	15	13 00	13 00	20	33 00	10 50
Shelbyville	127	130 50	80 00	67	22 00	19 00	513	175 50	168 00	638	179 25	159 50	115	94 75	65 25
Toulon															
St Clair															
Stephenson	66	89 50	40 25	122	90 00	57 00	472	161 70	128 00	497	91 00	54 25	165	63 25	39 55
Tazewell	51	22 00	16 50	35	369 70	172 95	160	89 75	74 25	300	157 50	180 50	132	129 00	81 50
Union	50	14 00	6 00	23	139 00	58 00	265	62 00	41 00	370	130 00	62 50	132	73 00	48 00
Vermilion	129	281 00	136 00	69	135 50	70 00	165	61 65	62 51	474	89 60	65 40	209	73 00	48 00
Danville	133	94 00	57 00	62	201 50	40 25	215	87 00	71 00	275	84 00	91 00	110	58 00	35 50
Hoopston	64	85 00	57 00	16	201 50	40 25	154	83 75	59 50	67	87 75	40 25	68	58 00	35 50
Vermilion	12	7 50	7 50	16	117 50	67 50	234	92 00	76 00	437	109 50	91 00	110	58 00	35 50
Wabash	88	51 00	33 00	44	117 50	67 50	234	92 00	76 00	437	109 50	91 00	110	58 00	35 50
Monmouth															
Warren															
Washington															
Fairfield	16	36 50	13 00	17	85 00	37 50	144	83 60	50 25	185	83 25	32 50	48	47 00	27 50
Wayne	5	17 50	13 00	36	149 00	49 00	146	80 60	57 00	91	101 00	203 25	132	32 25	70 50
Carmi	15	88 50	30 50	84	129 50	32 00	355	155 00	46 00	824	278 00	233 25	105	68 00	58 00
Sterling	123	90 50	82 50	19	80 00	80 00	355	123 00	110 75	464	102 00	183 50	23	24 00	58 00
Morrison	123	90 50	82 50	19	80 00	80 00	355	123 00	110 75	464	102 00	183 50	23	24 00	58 00
Whiteside	15	19 00	9 00	109	125 00	52 00	72	150 00	55 00	40	163 00	144 00	54	90 00	54 00
Whiteside	15	19 00	9 00	109	125 00	52 00	72	150 00	55 00	40	163 00	144 00	54	90 00	54 00
Will	9	54 00	24 00	109	125 00	15 00	62	53 00	53 00	22	11 00	11 00	188	177 00	170 00
York	6	7 00	3 00	10	42 50	23 50	251	200 50	170 00	137	512 50	286 00	100	140 00	113 00
Rockford	55	76 50	55 60	10	42 50	23 50	251	200 50	170 00	137	512 50	286 00	100	140 00	113 00
Williamson															
Winnebago															
Woodford															
Springfield	454	812 00	509 00	233	180 00	175 00	655	711 00	626 00	1,165	1,299 00	1,108 00	214	96 00	92 00
State Fair	14	120 00	65 00				74	675 00	526 81						
FatStock Show															
Total	5,378	\$6,680 50	\$3,678 75	5,006	\$9,187 65	\$4,289 80	\$11,233 25	\$8,052 00	\$6,052 00	\$12,151 45	\$9,350 06	\$6,412 45	6,158	\$3,400 78	\$3,400 78

Exhibit Illinois Agricultural Fairs 1879—Continued.

Counties.	Location of Fair.	TEXTILE FABRICS.			NATURAL HISTORY.		MILITARY PRIZE DRILL.			EDUCATION.		SPEED RING.	
		Number of entries....	Amount premiums offered .	Amount premiums paid.....	Number of entries....	Amount premiums offered..	Amount premiums paid.....	Number of entries. .	Amount premiums offered....	Amount premiums paid....	Number of entries....	Amount premiums offered ...	Amount premiums paid.....
Randolph.....	Chester.....	159	\$166 00	\$121 00							82	\$300 00	\$140 00
Richland.....	Rocky.....	223	125 00	79 00	1	\$5 00	\$5 00				86	1,430 00	1,210 00
Rock Island.....	Saline.....												
Saline.....	Sangamon.....												
Sangamon.....	Schuyler.....	325	142 50	130 00							26	425 00	335 00
Schuyler.....	Scott.....												
Scott.....	Shelbyville.....	106	46 50	38 50							16	360 00	360 00
Shelby.....	Stark.....	576	257 75	230 00	125			45	\$15 00	\$10 00	19	130 00	130 00
Stark.....	Toulon.....												
St. Clair.....													
Stephenson.....													
Tazewell.....	Delavan.....	435	96 40	75 00	10	5 25	\$25 00						
Union.....	Donesboro.....	290	177 00	122 25	1		50 00				84	413 00	393 00
Vermilion.....	Carlin.....	66	35 50	20 00							17	135 00	125 00
Vermilion.....	Danville.....	165	52 50	57 50							38	1,150 00	835 00
Vermilion.....	Hopkinton.....	102	25 00	24 00									
Wabash.....	Mt. Carmel.....										36	577 00	573 00
Warren.....	Monmouth.....	344	141 00	81 75							6	350 00	170 00
Washington.....											38	1,100 00	1,000 00
Wayne.....	Fairfield.....	82	45 00	58 25							19	570 00	412 50
White.....	Carmi.....	173	105 00	57 40							33	605 00	520 00
Whiteside.....	Sterling.....	306	145 00	107 50	22	43 00	25 00				20	500 00	270 00
Whiteside.....	Morrison.....	189	74 00	57 75	29	40 00	37 00	4	13 00	13 00	46	317 00	317 00
Whiteside.....	Abany.....										22	100 00	100 00
Will.....	Joliet.....	85	156 00	114 00							21	1,200 00	422 00
Williamson.....	Marion.....										24	262 00	250 00
Winnebago.....	Rockford.....	230	214 00	173 00	14	47 00	26 00				23	987 00	987 00
Woodford.....													
State Fair.....	Springfield.....	935	557 00	517 00	19	235 00	1,050 00	157	49 70	49 70			
Total.....		191,24	\$10,573 85	\$7,634 86	419	\$786 25	\$500 55	15	\$1,825 00	\$1,315 00	2,510	\$63,749 00	\$51,836 00

Exhibit Illinois Agricultural Fairs, 1879—Continued.

Counties.	Location of Fair.	President.	Secretary.	MISCELLANEOUS EXHIBIT.			TOTALS.		
				Number of entries....	Amount premiums offered	Amount premiums paid.....	Number of entries ...	Amount premiums offered	Amount premiums paid.....
Hancock	Elizabethtown	G. M. Ferrill	James A. Lowry	13		\$7 00	232	\$1,289 75	\$807 75
Hardin	Higsville	Samuel Hutchinson	W. A. McKinley				1,437	1,785 75	1,434 75
Henderson	Cambodge	W. A. Gilbert	R. A. Minnan			31 75	1,436	3,435 00	3,045 75
Henry	Quang	W. A. Boswell	E. C. Hall		\$14 00	14 00	507	1,629 00	514 80
Illinois	Monrovia	R. A. Boswell	Jno. W. Greer	31	54 50	7 15	510	1,237 35	559 20
Jasper	Newton	S. Bowman	Frank Richardson				403	1,468 00	1,163 15
Jackson	Jessyville	Joseph M. Conklin	Morris R. Locke				2,068	4,826 00	4,318 00
Jackson	Galena	Ralph S. North	Frank Bestwick	10	25 00	12 00	685	1,204 00	890 00
Jackson	Warren	Robert Hawley	Joseph Higgs	20	51 00	51 00	543	1,228 75	1,105 45
Johnson	Elgin	Johnathan Tefft	W. H. Pease	71	65 00	18 20	672	1,371 50	621 75
Kankakee	Kankakee	H. D. Worcester	Noel Briscoe				702	1,449 00	1,321 00
Kendall	Knox	John N. Seelye	A. N. Beche		35 00	22 75	809	2,114 00	536 84
Knox	Knoxville	J. V. N. Stradish	J. L. Hunsdon	83	43 00	32 00	2,306	2,935 00	2,163 00
Lake	Lakeview	Geo. H. Schenck	E. B. Messer	10	85 00	9 87	497	1,072 50	414 00
Lake	Waukegan	James F. Powell	James Y. Corey				2,053	3,551 00	2,853 75
LaSalle	Attawa	James H. Pickens	A. M. Hoffman				2,360	4,855 00	2,861 00
Lawrence	Lawrenceville	J. W. Whitaker	D. L. Gold				373	950 00	575 00
Lee	Fairbury	John Virgin	H. L. Bruce	131	50 00	50 00	330	3,469 75	2,894 81
Livingston	Lincoln	Joseph Keim	A. H. Nicholson	623	109 50	4 72 1/2	4,724	9,369 00	3,974 00
Logan	Atlanta	Augustus Heise	C. L. Davies	206		13 00	3,009	2,512 00	2,057 12
Macoupin	Decatur	J. R. Miller	Milton B. Thomas	6	150 00	150 00	468	2,331 00	2,100 00
Macoupin	Carlinville	Geo. J. Castle	B. P. Melaniel				1,380	3,331 00	1,775 50
Madison	Centerville	Geo. J. Castle							
Marion	Centralia	M. G. Kell	J. N. Kew	135	60 25	61 25	1,373	1,805 00	1,474 50
Marshall	Wenona	John O. Dent	Geo. G. McAdam	15			2,892	4,451 50	3,817 50
Massac	Metropolis	J. C. Willis	J. M. Stone				240	762 00	429 25
McDonough	Macomb	W. O. Blisdel	W. H. Hamlin	18	55 00	55 00	1,440	4,004 10	3,453 55
McHenry	Woodstock	John S. Wheat	J. S. Gates	54	70 00		898	2,318 10	941 50
McHenry	Marengo	L. W. Sheldn	J. S. Hays				987	2,273 75	1,733 25
McLean	Bloomington	T. D. Hartson	J. T. Diddle	146			2,383	2,936 00	1,637 93
Menard	Petersburg	Fred. Wilkinson	Robert S. Carter	20			888	3,544 00	2,239 07

Mercer	Alledo	Dan. W. Sedwick	C. F. Durston			2,811	2,572 00	2 123 30
Monroe	Wm. K. Jackson	I. H. Shimer	Wm. K. Jackson	600	1,432 00	350 00		
Monroe	N. D. Graves	N. D. Graves	Geo. N. Lantis	25	2,222	3,747 95	2,418 75	
Monroe	A. A. Sargent	A. A. Sargent	Geo. N. Lantis	25	607	1,362 50	1,116 60	
Monroe	John T. Givatt	John T. Givatt	John T. Givatt	35	5,639 75	1,508 12	1,508 12	
Ogle	William Stocking	William Stocking	Geo. E. Turkington	37	107 05	2,690 60	2,142 55	
Ogle	R. H. Whiting	R. H. Whiting	Roswell Bills	18	75 00	14,371 00	10,306 00	
Ogle	Wm. R. Murphy	Wm. R. Murphy	W. S. D. Smith	21	50 00	1,419 50	1,122 50	
Ogle	J. W. Warner	J. W. Warner	H. D. Peters	20	180 00	476	2,250 70	
Ogle	Allen Rush	Allen Rush	J. B. Crane	15	100 00	2,272 00	1,895 00	
Ogle	J. R. Steagall	J. R. Steagall	J. E. Y. Hanna	49	12 35	422	743 00	
Ogle	Wm. Allen	Wm. Allen	Geo. G. Read	30	40 00	475	911 00	
Ogle	D. R. McVaster	D. R. McVaster	Milton E. Foster	81	111 00	1,613	2,336 50	
Ogle	Wm. McAdam	Wm. McAdam	Wm. Schuchert	102	36 00	1,128	2,401 00	
Ogle	Isaac Welty	Isaac Welty	W. F. Beck	5	8 00	1,025	3,535 00	
Ogle	Edwin M. Anderson	Edwin M. Anderson	S. B. Montgomery	1,537	2,011 95	1,474 75		
Ogle	John A. Tackett	John A. Tackett	Geo. A. Roberts	18	477	835 50	1,101 50	
Ogle	Samuel Wrigley	Samuel Wrigley	B. G. Hall	110	100 00	2,716	3,451 25	
Ogle	Ira. B. Hall	Ira. B. Hall	G. W. Patton	79	22 75	2,454	2,450 10	
Ogle	J. P. Reese	J. P. Reese	Alvan Cook	116	71 25	1,302	7,084 70	
Ogle	L. T. Dickson	L. T. Dickson	W. S. McClenathan	39	1,353	1,353	2,832 50	
Ogle	James A. Cunningham	James A. Cunningham	Wm. Glaze	101	1,650	3,176 15	2,040 50	
Ogle	Joseph Litherland	Joseph Litherland	Thos. Stone	20	16 00	1,690	2,939 50	
Ogle	John B. Meghinis	John B. Meghinis	Geo. C. Rankin	16	83 00	1,443	2,380 00	
Ogle	J. T. Fleming	J. T. Fleming	N. B. Roberts	12	718	1,631	1,401 00	
Ogle	L. R. Williams	L. R. Williams	R. J. Organ	803	1,970 25	2,940 00	2,575 75	
Ogle	A. A. Terrell	A. A. Terrell	R. F. Eastman	275	310 00	3,284 00	1,246 00	
Ogle	James M. Pratt	James M. Pratt	Ed J. Congat	11	285 75	2,172	3,284 00	
Ogle	E. H. Neff	E. H. Neff	Ed J. Congat	11	5 00	2,422 50	1,054 50	
Ogle	W. A. Francis	W. A. Francis	W. T. Neff	18	318	1,722 70	1,484 50	
Ogle	R. A. Francis	R. A. Francis	W. T. Neff	30	1,106	568 00	1,100 00	
Ogle	Charles O. Upton	Charles O. Upton	V. A. G. G. G. G.	90	1,455	3,549 00	1,805 00	
Ogle	James R. Scott	James R. Scott	Henry P. Kimball	90	15 00	1,293 00	1,978 00	
Ogle	State Fair	State Fair	S. D. Fisher	7,651	20,776 00	19,225 69		
Ogle	Winter Meeting	Winter Meeting		500 00				
Total				4,230	\$3,401 25	\$4,107 75	\$241,083 55	\$175,900 06

Iroquois	Onarga	1,926 54	852 00	305 75	100 00	84 99	534 80	270 00	402 50	1,771 10
Jackson	Murphysboro	300 00	707 15	98 60	100 00	167 67	559 20	20 00	279 42	300 00
Jasper	Newton	20	1,134 30	172 00	100 00	100 00	1,163 15	20 00	395 33	15 69
Jefferson		176 73	5,815 70	1,562 45	100 00	641 50	4,318 00	359 25	3,065 45	613 68
Jersey	Jerseyville	10 00	1,480 95	104 00	100 00	704 65	890 00	296 37	1,213 23	1,950 00
Jo Daviess	Galena	1,081 15	575 20	575 20	100 00	15 00	1,105 45	82 91	346 01	829 17
Jo Daviess	Warren		823 20	174 05	100 00		631 75		439 75	35 75
Johnson	Figln	1,529 00	2,106 70	365 95	100 00	8 00	1,321 00	200 00	847 68	11 72
Kane	Kankakee	57 70	732 50	40 00	100 00	138 58	576 84	75 75	377 23	78 91
Kankakee	Bristol	359 25	2,770 99	524 40	100 00	100 00	2,163 00	50 00	912 00	21 14
Kendall	Knoxville	11 28	391 55	70 50	100 00	81 12	414 00		193 01	47 54
Lake	Libertyville	855 21	3,463 91	630 00	100 00	170 00	2,583 75	500 09	1,171 40	428 67
Lake	Waukegan		3,060 26	246 00	100 00	664 50	2,586 00	1,048 46	840 24	51 27
LaSalle	Ottawa	600 00	699 50	48 50	100 00		575 00	150 00	163 00	530 00
Lawrence	Lawrenceville		3,324 00	318 50		431 77	2,804 61	297 77	922 02	13 11
Lee	Fairbury	3 24	4,387 02	444 35	50 00	788 35	3,974 00	207 55	1,369 54	1,825 00
Livingston	Lincoln	11 84	1,735 95	872 25	50 00	875 10	2,087 12	285 95	1,187 55	616 29
Logan	Atlanta		2,500 00	424 25	100 00		2,100 00		1,070 00	1,603 33
Macon	Decatur	7 35	4,336 95	996 25	100 00	410 00	1,778 50	1,109 25	2,871 45	7,123 00
Macoupin	Carlinville		1,794 60	537 40		122 65	1,474 50	223 39	663 94	837 92
Madison	Centralla	104 50	5,331 50	530 00		375 00	8,817 50	159 92	3,887 62	432 37
Marion	Wenona	239 25	853 20	354 00	100 00	163 00	429 25	300 00	304 53	655 90
Marshall	Metropolis	85 75	1,360 60	804 00	100 00	70 08	3,433 55	295 15	2,060 07	4,032 53
Massac	Macomb		1,057 53	82 40	100 00		941 10	211 57	408 08	2,014 80
McDonough	Woodstock	8 300 00	3,016 37	1,615 95	100 00	800 00	1,637 93	925 56	1,837 68	271 15
McHenry	Marengo		2,851 83	633 65	100 00	24 85	2,239 07	866 23	782 08	100 76
McHenry	Bloomington	35 12	630 70	125 00	100 00	60 70	2,126 90	745 90	782 08	21 16
McLean	Aledo		4,280 35	85 00	100 00	215 75	3,438 75	783 67	634 78	11 62
Menard	Hillsboro	40 82	1,260 00	35 00	100 00	275 75	1,16 00		736 01	81 62
Mercer	Jacksonville		2,014 62	603 30	100 00	195 37	2,562 55	200 00	800 00	513 20
Monroe	Sullivan		8,879 25	1,694 00	100 00	145 00	10,362 00	2,155 00	594 44	73 00
Montgomery	Oregon	124 70	3,873 75	408 50	100 00	3,138 75	1,132 50	1,109 17	2,614 18	1,039 57
Morgan	Bochelle	3,815 25	2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Moultrie	Peoria	849 65	2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Ogle	Peoria	152 60	2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Ogle	Peoria	1 91	2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Perry	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Perry	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Pike	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Pike	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Pope	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Pope	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Pulaski	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Pulaski	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Randolph	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Randolph	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Richard	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Richard	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Rock Island	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57
Saline	Peoria		2,297 15	532 45	100 00	138 75	1,132 50	1,109 17	413 18	639 57

Financial Exhibits Illinois Agricultural Fairs, 1879—Continued.

Counties.	Location of Fair.	Amount in treasury last report.	Am't of deficit last report.	Am't rec'd gate and entrance fees.	Am't rec'd booth tents & permits.	Am't rec'd sale shares of stock.	Am't rec'd state appropriation.	Am't rec'd other sources.	Am't paid in premiums.	Am't paid real-estate, building & improvements.	Am't paid current expenses not premiums.	Amount in treasury.	Amount deficit.
*Sangamon.	Rushville.	\$37 49	\$630 00	\$1,911 75	\$109 50	\$45 00	\$100 00	\$5,179 83	\$4 00	\$1,822 83	\$285 49	...	\$750 00
Schuyler.	...	8 90	...	...	...	...	100 00	975 00	1 471 75	1,137 00	663 40	...	...
Scott.	...	...	...	1,763 81	189 00	...	100 00	111 00	1,101 80	305 53	710 20	50 77	...
Shelby.	Shelbyville.	44 51	...	2,607 75	468 00	...	100 00	593 35	2,278 75	184 45	1,071 18	740 75	...
Stark.	Toulon.	547 06	...	...	...	...	...	...	...	...	...	...	...
St Clair.	...	...	...	...	...	...	...	...	...	...	...	...	...
Stephenson.	...	...	...	...	...	...	...	...	...	...	...	...	...
Tazewell.	Delevan.	...	...	2,815 25	446 50	3,610 00	...	18 00	1,919 53	6,032 09	1,001 07	...	2,064 16
Union.	Jonesboro.	55 49	...	2,301 33	490 00	...	100 00	527 15	1,617 20	702 05	1,743 73	23 91	...
Vermilion.	Catlin.	50 00	470 00	2,218 30	428 70	...	100 00	...	2 453 70	1,616 14	987 00	...	470 00
Vermilion.	Danville.	500 00	...	4,422 30	351 00	...	...	72 73	2 453 70	1,616 14	987 00	...	340 00
Vermilion.	Hoopston.	...	1,038 93	2,146 03	875 00	...	100 00	71 73	2 453 70	1,616 14	987 00	...	230 17
Warren.	Mt Carmel.	1,160 00	1,057 11	1,057 11	171 00	...	100 00	84 00	2,575 75	600 00	758 30	...	1,160 00
Washington.	Monmouth.	6,794 00	...	3,112 40	537 05	...	100 00	...	...	...	...	...	5,894 00
Wayne.	Fairfield.	5 15	1,050 00	1,255 15	447 50	3,450 00	100 00	...	1,946 00	376 95	370 85	...	1,216 00
White.	Carmi.	...	1,766 20	3,404 20	1,040 00	480 00	100 00	20 00	1,748 00	6,748 00	277 05	309 08	1,691 02
Whiteside.	Sterling.	606 51	...	2,436 35	317 40	...	100 00	192 53	1,651 50	1 161 40	3 526 48	...	1,360 00
Whiteside.	Morrison.	1 05	...	2,381 45	970 25	...	...	252 15	1,434 50	135 56	1 159 77	740 23	...
Whiteside.	Albany.	...	...	1,965 75	133 00	1,365 08	100 00	516 50	1,805 00	300 00	349 13	12 12	25 00
Will.	Joliet.	13,300 00	...	1,418 25	21 00	...	100 00	200 00	978 00	175 00	377 00	348 70	13,200 00
Williamson.	Morton.	170 70	8 230 00	5,701 85	1,027 80	...	100 00	...	2,756 20	1,050 52	2 372 43	694 84	8,250 00
Winnebago.	Rockford.	45 26	...	...	...	...	...	...	...	...	...	...	...
Woodford.	...	...	...	...	...	...	3,000 00	2,791 00	14 503 96	...	11,817 32	2 974 39	...
State Fair Show.	Springfield.	4 899 08	...	20,708 50	2,458 73	...	...	4 221 73	...	...	5,110 50	...	...
Int Stock Show.	...	...	...	4 680 08	...	...	...	...	500 00	...	...	...	...
Winter Meeting.	Springfield.	...	...	...	...	...	...	...	...	...	...	...	...
Totals.	...	\$17,526 95	\$105,506 13	\$234,026 69	\$40,842 82	\$11,532 23	\$10,166 66	\$20,640 01	\$17,954 66	\$45,195 20	\$94,245 30	\$22,847 17	\$100,903 17

*State Fair held on Society's grounds.

Fair Associations, Capital Stock, Real Estate, Value of Improvements, etc., 1879.

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Counties.	Location of Fair	Amount authorized capital stock.....	Number of shares of stock issued.	Amount of stock issued.....	Par value of share of stock	Number of shareholders or members	Cash value of real estate and improvements thereon	Number of volumes in library	Date of incorporation or organization.	Time of holding Fair in 1879.
Adams	Camp Point.....		476	\$4,765 00	\$10 00	340	\$11,600 00	.....	November 19.....	September 1, 2, 3, 4, 5.
Alexander	Belvidere.....							.....	May 16.....	September 2, 3, 4, 5.
Bond	Boone.....	\$5,070 00	607	6,070 00	10 00	225	10,000 00	.....	February.....	September 26, 27, 28, 29.
Boone	Mt. Sterling.....					2,000	10,000 00	.....	July 7.....	September 16, 17, 18, 19.
Bureau	Princeton.....							.....	
Calhoun	Calhoun.....							.....	
Carroll	Mt. Carroll.....	3,200 00	160	3,200 00	20 00	365	3,000 00	14	.....	September 16, 17, 18, 19.
Cass	Virginia.....	20,000 00	888	19,400 00	50 00	85	3,500 00	.....	.....	August 28, 29, 30.
Champaign	Champaign.....					270	15,000 00	.....	October 8.....	September 23, 24, 25, 26.
Christian	Marshall.....							.....	.....
Clark	Flora.....	25,000 00	1,000	25,000 00	25 00	268	15,000 00	.....	June 5.....	October 1, 2, 3.
Clay	Clay.....							.....	.....
Clinton	Charleston.....		99			88	6,000 00	.....	.....	September 9, 10, 11, 12, 13.
Coles	Robinson.....	2,500 00	67	1,675 00		300	2,000 00	.....	March 6.....	September 30 October 1, 2, 3.
Cook	Prairie City.....	2,500 00	500	2,500 00	5 00	67	2,500 00	.....	.....	September 16, 17, 18, 19, 20.
Cumberland	Swamore.....	2,500 00	500	2,500 00	5 00	133	3,500 00	.....	March 12.....	September 16, 17, 18, 19.
DeKalb	DeKalb.....	6,000 00	403	4,030 00	10 00	16	3,500 00	.....	.....	September 3 - October 1, 2, 3.
Dewitt	Tuscola.....		188	2,550 00	12 50	161	3,000 00	.....	October 4.....	August 19, 20, 21, 22.
Douglas	Wheaton.....					45	2,000 00	.....	August 26.....	September 16, 17, 18, 19.
DuPage	Paris.....		288	7,200 00	25 00	173	8,000 00	.....	October.....	September 2, 3, 4, 5.
Edgar	Albion.....							.....	September.....	September 2, 3, 4, 5, 6.
Edward	Vandalia.....		503	2,515 00	5 00	153	1,200 00	.....	November 5.....	September 17, 18, 19.
Fayette	Paxton.....							.....	April 9.....	September 16, 17, 18, 19.
Ford	Gibson City.....					10	3,500 00	.....	.....	September 2, 3, 4, 5.
Franklin	Renton.....							.....	.....	September 23, 24, 25, 26.
Fulton	Canton.....	10,000 00	254	6,350 00	25 00	156	8,000 00	.....	.....	September 29, 30 - October 1, 2, 3.
Gallatin	Shawneetown.....	4,000 00	200	4,000 00	10 00	52	7,000 00	.....	August 31.....	October 1, 2, 3.
Greene	Marionville.....	8,000 00	121	6,050 00	50 00	90	8,000 00	.....	March 20.....	October 21, 22, 23.
Hardy	McLeansboro.....							.....	.....	September 10, 11, 12, 13.
Hamilton								.....	.....
Hancock								.....	.....

Fair Associations, etc.—Continued.

Counties.	Location of Fair	Amount authorized capital stock	Number of shares of stock issued.	Amount of stock issued	Par value of share of stock	Number of shareholders or members	Cash value of real estate and improvements thereon	Number of volumes in library.	Date of incorporation or organization.	Time of holding Fair in 1879.
Hardin	Elizabethtown.	\$880 00	176	\$880 00		76	\$2,500 00	100	September 2	1870.
Henderson	Biggsville.	10 000 00	586	1,890 00	\$5 00	280	4,000 00		September 2	1855.
Henry	Cambridge	10 000 00	582	3,530 00	10 00	65	10,000 00		September 12	1872.
Irequis	Onarga.	5,000 00	200	5,000 00	20 00	130	2,500 00		November 13	1869.
Jackson	Murphysboro	5,000 00	200	5,000 00	20 00	60	5,000 00		August 4	1869.
Jasper	Newton									September 23, 24, 25, 26.
Jefferson										
Jefferson	Jerseyville	20,000 00	513	12,525 00	25 00	418	20,345 00		April 13	1863.
Jedrey	St. Louis	23,000 00	2,600	12,500 00	15 00	800	10,000 00		September 20	October 1, 2, 3.
Jo Darless	Warren	10,000 00	500	10,000 00	20 00	43	4,000 00	10	September 23	24, 25, 26.
Johnson										
Kankakee	Elgin									September 9, 10, 11, 12.
Kankakee	Kankakee						3,000 00		September 16	17, 18, 19.
Kendall	Redata						2,000 00		September 2	3, 4, 5.
Knox	Knoxville					318	5,500 00	52	September 16	17, 18, 19, 20.
Lake	Libertyville								September 23	24, 25, 26.
Lake	Waukegan	12,000 00	320	8,000 00	25 00	70	20,000 00		May 18	1871.
LaSalle	Ottawa								September 1	2, 3, 4, 5, 6.
Lawrence	Lawrenceville					75	800 00		October 8, 9, 10, 11.	
Lee										
Livingston	Fairbury	6,000 00	216	5,253 00	25 00	202			March 25	1876.
Logan	Lincoln	12,000 00	434	9,600 00	20 00	144	12,500 00		July 20	1872.
Logan	Atlanta	10,000 00	296	5,920 00	20 00	193	6,000 00	50	September 1	2, 3, 4, 5.
Macon	Decatur						5,000 00	100	September 23	24, 25, 26.
Macoupin	Carlinville						7,000 00		March 16	1872.
Madison										September 9, 10, 11, 12.
Marion	Centralla	5,000 00	481	4,310 00	10 00	235	5,000 00	20	May 26	1876.
Marshall	Wenona		315		25 00	315			July 15	1871.
Mason										September 23, 30—Oct. 1, 2, 3.
Massac	Metropolis	2,500 00	25	2,600 00	100 00	21	3,500 00		August	1866.
McDonough	Macomb		662	3,310 00	5 00	92	10,000 00		August 26, 27, 28, 29, 30.	
McHenry	Woodstock						5,000 00		September 9, 10, 11, 12.	
McHenry	Marengo								September 16, 17, 18, 19.	
McLean	Bloomington		200		12 50	190	25,000 00		September 23, 24, 25, 26.	
Menard	Petersburg						5,000 00		Sept. 2, 3, 4, 5.	
Monroe	Aledo						4,000 00	40	March	1854.
Monroe										September 16, 17, 18, 19.

Hillsboro	20,000 00	390	7,800 00	20 00	1	3,000 00	November 11	1854	September 16, 17, 18, 19, 20.
Montgomery	20,000 00	390	7,800 00	20 00	1	15,000 00	November 11	1854	August 18, 19, 20, 21, 22.
Morgan	10,000 00	944	4,720 00	5 00	79	4,000 00	April 6	1872	September 9, 10, 11, 12, 13.
Moultrie	10,000 00	600	6,000 00	100 00	18	60,000 00	September 23	1873	September 23, 24, 25, 26, 27.
Ogle	50,000 00	500	50,000 00	100 00	18	60,000 00	September 23	1873	September 23, 24, 25, 26, 27.
Peoria	50,000 00	500	50,000 00	100 00	18	60,000 00	September 23	1873	September 23, 24, 25, 26, 27.
Perry	10,000 00	710	3,550 00	5 00	414	4,500 00	October 12	1872	September 30, October 1, 2, 3.
Pinekneryville	10,000 00	710	3,550 00	5 00	414	4,500 00	October 12	1872	September 30, October 1, 2, 3.
Platt	10,000 00	710	3,550 00	5 00	414	4,500 00	October 12	1872	September 30, October 1, 2, 3.
Pike	10,000 00	710	3,550 00	5 00	414	4,500 00	October 12	1872	September 30, October 1, 2, 3.
Pittsfield	10,000 00	710	3,550 00	5 00	414	4,500 00	October 12	1872	September 30, October 1, 2, 3.
Pope	10,000 00	710	3,550 00	5 00	414	4,500 00	October 12	1872	September 30, October 1, 2, 3.
Goconda	10,000 00	710	3,550 00	5 00	414	4,500 00	October 12	1872	September 30, October 1, 2, 3.
Hennepin	2,840 00	117	2,840 00	20 00	164	1,500 00	February 23	1846	September 9, 10, 11.
Putnam	2,840 00	117	2,840 00	20 00	164	1,500 00	February 23	1846	September 9, 10, 11.
Randolph	5,000 00	500	5,000 00	10 00	78	9,300 00	August 24	1874	October 21, 22, 23, 24.
Randolph	5,000 00	500	5,000 00	10 00	78	9,300 00	August 24	1874	October 21, 22, 23, 24.
Randolph	5,000 00	500	5,000 00	10 00	78	9,300 00	June 7	1856	September 16, 17, 18, 19, 20.
Rock Island	5,000 00	500	5,000 00	10 00	78	9,300 00	June 7	1856	September 16, 17, 18, 19, 20.
Rock Island	5,000 00	500	5,000 00	10 00	78	9,300 00	June 7	1856	September 16, 17, 18, 19, 20.
Selline	15,025 00	601	15,025 00	25 00	504	27,341 99	January	1872	State Fair held on society's gr ds
Sangamon	15,025 00	601	15,025 00	25 00	504	27,341 99	January	1872	September 23, 24, 25, 26.
Schuyler	505 00	101	505 00	5 00	79	4,000 00	January	1856	September 23, 24, 25, 26.
Schuyler	505 00	101	505 00	5 00	79	4,000 00	January	1856	September 23, 24, 25, 26.
Shelby	505 00	101	505 00	5 00	79	4,000 00	January	1856	September 23, 24, 25, 26.
Shelbyville	505 00	101	505 00	5 00	79	4,000 00	January	1856	September 23, 24, 25, 26.
Stark	505 00	101	505 00	5 00	79	4,000 00	January	1856	September 23, 24, 25, 26.
Toulon	505 00	101	505 00	5 00	79	4,000 00	January	1856	September 23, 24, 25, 26.
St. Clair	505 00	101	505 00	5 00	79	4,000 00	January	1856	September 23, 24, 25, 26.
Stephenson	3,610 00	361	3,610 00	10 00	180	6,032 69	July 5	1879	September 16, 17, 18, 19.
Tazewell	3,610 00	361	3,610 00	10 00	180	6,032 69	July 5	1879	September 16, 17, 18, 19.
Union	3,610 00	361	3,610 00	10 00	180	6,032 69	December 22	1855	September 10, 11, 12, 13.
Jonesboro	3,610 00	361	3,610 00	10 00	180	6,032 69	December 22	1855	September 10, 11, 12, 13.
Catlin	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Danville	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Vermilion	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Vermilion	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Vermilion	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,000 00	September 2	1851	September 2, 3, 4, 5.
Washington	3,230 00	395	3,230 00	10 00	131	13,			

Report of Pure-Bred Stock exhibited at the Fairs of 1879.

Counties.	SHORTHORN CATTLE.					HEREFORD.					DEVON.				
	No. of entries...	Amount premiums offered...	Amount premiums paid...	Owned in County.	Number of entries...	Amount premiums offered...	Amount premiums paid...	Owned in County.	Number of entries...	Amount premiums offered...	Amount premiums paid...	Owned in County.	Number of entries...	Amount premiums offered...	Amount premiums paid...
Adams	52	\$168	\$168	30	\$62					\$20					
Alexander															
Bond															
Boone	34	57	43	34	57	5	\$57	\$19	1	50	\$5				
Brown	62	229	201	31	76										
Bureau	45	406	301	45	801										
Calhoun															
Carroll	40	139	124	40	124										
Cass	25	227	183	25	183										
Champaign	24	107	84	24	84		26								
Christian															
Clark															
Clay	8	75	64				64		6	64	50	3	15		
Clinton															
Coles	31	274	232	21	182										
Cook															
Crawford															
Cumberland															
DeKalb															
DeKalb	18	62	44	4	4										
DeKalb															
DeKalb	25	60	45						10	60	15				
DeWitt	18	110	92	12	30										
Douglas	46	238	101												
DuPage	28	76	56	28	56										
Edgar	55	425	358	35	297										
Edwards	22	152	63	21	53				11	76	37	11	37		
Effingham															
Fayette	16	57	47	16	47										
Ford	54	288	213			12	40	40							
Paxton															
Ford	29	94	94												
Gibson City															
Franklin	23	77	76	12	35										
Fulton	32	128	101	32	101				2	72	11	2	11		
Canton															
Fulton	50	120	104						3	66	31				
Avon															
Gallatin	34	144	134	10	10										
Greene	25	88	67	5	10										
Grundy	1	31													
Hamilton															
Hancock															
Hardin															
Henderson	18	128	83	18	83										
Henry	29	191	191	21	123	3	60	14	3	14	60				
Iroquois	1	54	3				54				54				
Jackson															
Jasper	22	132	110	14	46				9	39	22	9	22		
Jefferson															
Jersey	40	350	315	21	95										
JoDavies															
Galena	64	149	114	64	114										
JoDavies															
Warren	31	83	81	16	38				36	76	58	24	18		
Johnson															
Kane															
Kankakee	36	88	73	21	37										
Kendall	62	102	94	62	94				1	102					
Knox	48	135	121	48	121										
Lake															
Libertyville	7	55	16	7	16										
Lake															
Waukegan	16	74	41	16	41		74			74					
LaSalle	76	333	322	61	111				11	80	37	11	37		
Lawrence	4	20	15												
Lee															
Livingston	48	274	274	5	9	16	170	132							
Fairbury															
Logan									14	170	86	14	86		
Lincoln	56	372	367	24	75		69								

Report of Pure-Bred Stock—Continued.

Counties.	SHORTHORN CATTLE.					HEREFORD.					DEVON.				
	No. of entries...	Amount premiums offered...	Amount premiums paid.....	Owned in County.		No. of entries...	Amount premiums offered...	Amount premiums paid.	Amount premiums offered...	Amount premiums paid.	No. of entries...	Amount premiums offered...	Amount premiums paid.	Owned in County.	
				Number of entries...	Am't premiums paid.									Number of entries...	Am't premiums paid.
Logan.....	19	\$73	\$52				\$73					\$73			
Atlanta.....	85	131	181	42	\$105							71			
Macoupin.....	41	202	92												
Madison.....	22	58	48	15	25						4	42	\$11	2	\$11
Marion.....	55	202	186								10	63	51		
Marshall.....															
Mason.....															
Massac.....															
McDonough.....															
McHenry.....	21	72	42	18	26	2	72	\$6	2	\$6					
Woodstock.....															
McHenry.....	32	43	40	32	40	2	43	5	2	5		43			
Marengo.....															
McLean.....	84	451	256												
Menard.....	23	220	101	5	11										
Mercer.....	11	89	74	10	66										
Monroe.....															
Montgomery.....	2	107		2											
Morgan.....	66	360	355	28	139										
Moultrie.....	25	177	182	15	70										
Ogle.....	11	230	49	11	49										
Oregon.....															
Ogle.....	34	88	76	4	23	1	88	7	1	7		88			
Rochelle.....															
Peoria.....	19	108	108				48					50			
Perry.....															
Piatt.....	46	150	210	22	30		20					20			
Pike.....	17	291	104	17	104										
Pope.....															
Pulaski.....															
Putnam.....	22	63	54	22	54										
Randolph.....	12	84	68	12	68						3	84	13	3	13
Sparta.....															
Randolph.....	14	74	50	8	25										
Chester.....															
Richland.....	33	158	96	17	34						7	146	33	7	33
Rock Island.....															
Saline.....															
Sangamon.....															
Schuyler.....	16	112	89	9	50							112			
Scott.....															
Shelby.....	19	184	172	13	92										
Stark.....	20	120	60	14	60										
St. Clair.....															
Stephenson.....															
Tazewell.....	29	73	63	11	18		73								
Union.....															
Vermillion.....	31	410	383	31	383										
Catlin.....															
Vermillion.....	57	477	477	38	279										
Danville.....															
Vermillion.....	36	364	364	9	165	19	144	129							
Hoopston.....															
Wabash.....	15	75	92	15	92						1	75	4	1	4
Warren.....	23	99	95	11	47										
Washington.....															
Wayne.....	17	65	48								3	65	16		
White.....	18	179	144	11	59		179				3	179	13		
Whiteside.....															
Sterling.....	32	96	85												
Whiteside.....											1	25		1	
Albany.....	5	45		5											
Will.....	19	82	48	19	48	11	82	71	11	71					
Williamson.....															
Winnebago.....	22	55	36	9	20	8	55				3	55	18	3	18
Woodford.....															
State Fair.....	49	450	385			44	450	385			39	450	410		
Total.....	2435	\$12675	\$10158	1291	\$4,896	123	\$1,941	\$808	19	\$103	183	\$2,759	\$921	91	\$905

Counties.	HOLSTEIN.				JERSEY.				AYRSHIRE.				
	No. of entries....	Amount premiums offered...	Amount premiums paid.....	Owning in County.	No. of entries....	Amount premiums offered...	Amount premiums paid.....	Owning in County.	No. of entries....	Amount premiums offered...	Amount premiums paid.....	Owning in County.	
				Number of entries....				Number of entries....				Number of entries....	
Adams.....	11	\$166	\$91	1	\$10	2	\$20	\$10	2	\$10			
Alexander.....													
Bond.....													
Boone.....	2	49	3	2	8	14	48	33	14	33			
Brown.....													
Bureau.....	4	54	11	4	11	14	54	40	14	40			
Calhoun.....													
Carroll.....						14	43	33	14	33			
Cass.....													
Champaign.....						1	26	5	1	5			
Christian.....													
Clark.....													
Clay.....						5	64	32			\$64		
Clinton.....													
Coles.....						15	69	53	15	53			
Cook.....													
Crawford.....													
Cumberland.....													
DeKalb.....	2		10										
DeKalb.....													
DeKalb.....													
DeWitt.....													
Douglas.....						14	76	54	14	54	4	76	\$23
DuPage.....												4	\$23
Edgar.....													
Edwards.....													
Efingham.....													
Fayette.....													
Ford.....						1	40	10					
Paxton.....													
Ford.....													
Gibson City.....													
Franklin.....													
Fulton.....							72				72		
Canton.....													
Fulton.....													
Avon.....									1	66	7		
Gallatin.....						6	61	27	3	20			
Greene.....						1			1				
Grundy.....													
Hamilton.....													
Hancock.....													
Hardin.....						2	7	7	2	7			
Henderson.....						1	123	15	1	15			
Henry.....		60					60					8	
Iroquois.....	2	54	8			10	54	5			54		8
Jackson.....													
Jasper.....													
Jefferson.....													
Jersey.....						1	40	15	1	15			
Jo Daviess.....													
Johnson.....													
Kane.....													
Kankakee.....													
Kendall.....	4	102	10	4	10	4	102	8	4	8			
Knox.....	18	64	64	18	64								
Lake.....													
Liberty.....	1	55	3	1	3	8	55	20	8	20			
Lake.....													
Waukegan.....	1	74	6	1	6	35	74	64	35	64	14	74	49
LaSalle.....			12	1	12							42	11
Lawrence.....	1	143									11	80	
Lee.....													
Livingston.....													
Fairbury.....						26	170	142	7	40			
Logan.....													
Lincoln.....						16	69	49	1				

Report of Pure-Bred Stock—Continued.

Counties.	HOLSTEIN.				JERSEY.				AYRSHIRE.			
	No. of entries....	Amount premiums offered....	Amount premiums paid.....	Owned in County.	No. of entries....	Amount premiums offered...	Amount premiums paid.....	Owned in County.	No. of entries....	Amount premiums offered....	Amount premiums paid.....	Owned in County.
				Number of entries..				Amount premiums paid.				Number of entries..	Amount premiums paid.	Number of entries..	Amount premiums paid.
Logan.....	1	\$73	\$4	.....	8	\$42	\$22	.....	.....	.....	.....	.....
Atlanta.....	.....	71	.....	.....	54	131	100	54	\$100	.....	\$63	.....
Macon.....	.....	.....	.....	.....	3	40	20	.....	.....	.....	.....	.....
Macoupin.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Madison.....	.....	.....	.....	.....	20	34	22	10	21	.....	.....	.....
Marion.....	1	63	10	.....	6	63	36	.....	.....	.....	.....	.....
Marshall.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mason.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Massac.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McDonough.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McHenry.....	.....	.....	.....	.....	.....	.....	.....	.....	1	72	.....	1
Woodstock.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McHenry.....	5	43	10	5	\$10	1	43	2	1	2	43	\$16
Marengo.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McLean.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Menard.....	.....	.....	.....	.....	2	20	13	2	13	.....	.....	.....
Mercer.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monroe.....	.....	.....	.....	.....	.....	26	.....	.....	.....	.....	.....	.....
Montgomery.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morgan.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moultrie.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ogle.....	7	230	43	7	43	.....	.....	.....	.....	.....	.....	.....
Oregon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ogle.....	6	88	32	.....	19	88	52	.....	.....	88	.....	.....
Wichelle.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42	.....	.....
Peoria.....	8	50	41	1	.....	32	109	109	10	.....	.....	.....
Perry.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Platt.....	.....	20	.....	.....	.....	.....	20	.....	.....	.....	20	.....
Pike.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pope.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pulaski.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Putnam.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Randolph.....	.....	.....	.....	.....	.....	27	84	71	22	64	8	84
Sparta.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	8
Randolph.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chester.....	.....	.....	.....	.....	.....	7	74	44	7	44	6	74
Richland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rock Island.....	.....	.....	.....	.....	.....	18	146	67	12	35	.....	.....
Saline.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Saugamon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schuyler.....	.....	.....	.....	.....	.....	3	10	10	3	10	.....	.....
Scott.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shelby.....	.....	.....	.....	.....	.....	.....	.....	.....	3	10	.....	.....
Stark.....	.....	.....	.....	.....	.....	3	120	25	3	25	.....	.....
St Clair.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stephenson.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tazewell.....	.....	.....	.....	.....	.....	26	73	69	26	69	.....	.....
Union.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vermilion.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wabash.....	.....	.....	.....	.....	.....	3	75	17	3	17	75	.....
Warron.....	.....	.....	.....	.....	.....	17	73	57	8	18	.....	.....
Washington.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wayne.....	.....	.....	.....	.....	.....	5	63	25	.....	.....	.....	.....
White.....	.....	179	.....	.....	.....	15	179	113	4	20	179	.....
Whiteside.....	21	59	57	.....	.....	14	59	51	.....	.....	.....	.....
Sterling.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whiteside.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	.....
Albany.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Will.....	2	82	12	2	12	12	82	54	12	54	.....	.....
Williamson.....	.....	.....	.....	.....	.....	9	61	44	5	27	.....	.....
Winnebago.....	13	55	46	.....	.....	45	55	30	15	20	55	28
Woodford.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
State Fair.....	60	450	415	.....	.....	215	450	450	.....	118	450	450
Totals.....	184	\$3,234	\$883	47	\$184	754	\$3,532	\$2,135	337	\$966	177	\$1,816
												\$676
												58
												\$219

Greene	8	114	40	7	80	501	114	1081	381	70	22	114	85	17	67	8	80		
Grundy	2	80	14			9	82	27			5	82	28						
Hamilton																			
Hancock																			
Hardin						2	15	15	1	10									
Henderson	2	18	18	2	18	36					43					87			
Henry	22	90	68	10	33	36	114	101	21	54	10	90	58	7	53				
Iowa	2	18				37	74	25		28	28	74	27						
Jackson	3	79	13	3	13	1	67	2	1	2				*					
Jasper																			
Jefferson																			
Jersey	7	80	60		70	20		180	36	100									
JoDaviss, Galena	48	101	80	48	80	18	97	87	18	87	16	104	40	16	40	10	18	17	17
JoDaviss, Warren	56	127	106	27	45	16	36	27	13	27									
Johnson																			
Kane																			
Kankakee																			
Kendall		79	8		8	49	184	52	49	52	20	54	15	2	15	2			
Knox	17	116	92	17	92	13	116	78	11	78	14	116	118	30	85	22	106	41	22
Lake, Libertyville							9	4	4	4		64	5	3	5	19	116	116	9
Lake, Waukegan							23	139	57	10	52	82	12	8	23	38	12	12	78
LaSalle	13	142	67	5	15	146	126	63	208	157			71	18	71	15	82	74	43
Lawrence																	137	40	40
Lee																			
Livingston, Fairbury	23	134	102	5	26	74	154	140	47	94	164					21	547	492	64
Logan, Lincoln	54	130	143	31	70	64	87	31	27	27				9	25	68	89	89	
Logan, Atlanta		101	14		33	33	91	83				80	57		44				
Macon	36	160	175	22	115	21	58	88	15	63		62	62	12					
Macoupin	12	70	40			59	126	63			34	111	55						
Madison																			
Marion																			
Marshall	21	94	86		149	257		257		7	95	223	223	7	38	36	208	128	
Mason																			
Massac																			
McDonough																			
McHenry, Woodstock					38														
McHenry, Marengo																			
McLean	23		64			108	108				21	103	57	21	57				
Menard	25	136	74	15	14	20	125	69	12	15		138	142						
Mermer					22	22	46	46	17	46	38	107	99	36	91	20	126	77	14
Monroe																			
Montgomery																			
Morgan	6	120	30	2	15	44	144	126	24	65									
Moutrie	2	27	10	1	10						1	15	10	1	10	1	15	5	5
Moutrie	2	307	13	2	13						1	307	5	1	5	1	5	1	5
Ogle, Rochelle						29	90	63	6	24	29	90	88	8	19				
Peoria	9	138	34																
Perry	8		23	2	23	11	37	37	5	25									
Perry		15	23			12	75	47	5	10	30	75	67	21	42				
Pike																			
Poppe																			

Report of Pure-Bred Stock—Continued.

Counties.	THOROUGHBRED HORSES.					ROADSTER.					NORMAN AND FRENCH DRAFT.					CLYDESDALE AND ENGLISH DRAFT.				
	No. of entries....	Amount premiums offered....	Amount premiums paid....	Owned in County.	Number of entries ..	No. of entries....	Amount premiums offered....	Amount premiums paid....	Owned in County.	Number of entries ..	No. of entries....	Amount premiums offered....	Amount premiums paid....	Owned in County.	Number of entries ..	No. of entries ...	Amount premiums offered....	Amount premiums paid	Owned in County.	Number of entries....
Pulaski.....	4	\$36	\$23	1	15	8	\$155	\$51	8	51	9	\$50	\$26	9	26	20	\$60	\$70	20	70
Putnam.....	4	60	40	1	20															
Randolph, Sparta.....	4																			
Randolph, Chester.....	4																			
Richland.....																				
Rock Island.....																				
Saline.....																				
Sangamon.....																				
Schuyler.....	6	96	23																	
Scott.....																				
Shelby.....																				
Stark.....						32	127	127	25	127	25	100	80	14	80					
St. Clair.....																				
Stephenson.....																				
Tazewell.....	6	77	22	3	4	47	77	64	19	40	61	60	60	46	36	20	20	20	20	18
Union.....																				
Vermilion, Catlin.....	2	25	25	1		4	40	40	4	40	5	30	30	5	30					
Vermilion, Danville.....	9	34	34			38	577	437	7	41	62	100	100	30	67	10	84	64		
Vermilion, Hoopeston.....																				
Wabash.....						36	115	99	27	73										
Warren.....	4	37	33	4	33															
Washington.....																				
Wayne.....						25	253	169	17	47	37	182	141	31	118					
White.....																				
Whiteside, Sterling.....																				
Whiteside, Morrison.....																				
Whiteside, Albany.....																				
Will.....	2	100	18	2	18	28	100	86	28	86										
Williamson.....	8	85	22	4	52	38	68	60	36	54	29	81	77	10	8		36	15	6	15
Winnebago.....																				
Woodford.....																				
State Fair.....	89	480	480			174	530	530			31									
Total.....	900	\$4,929	\$2,818	334	\$1,041	2046	\$6,737	\$5,431	998	\$2,385	1099	\$3,965	\$2,537	471	\$1,375	602	\$3,571	\$1,947	378	\$1,077

Counties.	COTSWOLD SHEEP.				LEICESTER AND OTHER LONG WOOLS.				SOUTHDOWN.				
	No. of entries....	Amount premiums offered....	Amount premiums paid....	Owning in County.	No. of entries....	Amount premiums offered....	Amount premiums paid....	Owning in County.	No. of entries....	Amount premiums offered....	Amount premiums paid....	Owning in County.	
				Number of entries....				Number of entries....				Number of entries....	
Adams.....	18	\$31	\$31	15	\$26	.....	.....	.....	16	\$33	\$33	16	\$33
Alexander.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bond.....	.....	.....	.....	.....	.....	30	\$24	17	5	.....	.....	.....	.....
Boone.....	.....	.....	.....	.....	.....	20	24	12	37	34	34	5	5
Brown.....	.....	.....	.....	.....	.....	41	132	132	41	132	.....	.....	.....
Bureau.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Calhoun.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carroll.....	5	20	15	5	15	.....	.....	.....	5	51	26	5	26
Cass.....	13	51	51	13	51	9	12	11	9	11	.....	.....	.....
Champaign.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Christian.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clark.....	1	5	4	.....	.....	8	24	24	4	3	10	5	24
Clay.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clinton.....	.....	.....	.....	.....	.....	14	29	29	14	29	5	23	.....
Coles.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cook.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crawford.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland.....	3	10	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
DeKalb.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
DeKalb Sycamore.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
DeKalb.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	25	15	.....
DeWitt.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26	47	44	7
Douglas.....	6	26	8	.....	.....	6	16	9	6	9	.....	.....	.....
DuPage.....	.....	.....	.....	.....	.....	4	30	30	4	30	.....	.....	.....
Edgar.....	.....	.....	.....	.....	.....	7	21	21	7	21	3	21	8
Edwards.....	5	21	19	5	19	.....	.....	.....	.....	.....	.....	8	8
Effingham.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fayette.....	23	15	14	23	14	.....	.....	.....	.....	.....	.....	7	3
Ford.....	2	8	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Faxton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ford.....	6	4	4	6	4	.....	.....	.....	.....	.....	.....	.....	.....
Gibson City.....	.....	.....	.....	.....	.....	3	9	6	3	6	.....	.....	.....
Franklin.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fulton.....	.....	.....	.....	.....	.....	9	40	16	9	16	.....	.....	.....
Fulton Canton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fulton.....	.....	.....	.....	.....	.....	13	18	18	.....	.....	.....	.....	.....
Avon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gallatin.....	3	34	14	.....	.....	33	28	26	27	16	7	24	20
Greene.....	.....	.....	.....	.....	.....	6	26	16	.....	.....	19	28	26
Grundy.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hancock.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hardin.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henderson.....	16	12	12	10	8	.....	.....	.....	.....	14	12	12	13
Henry.....	.....	.....	.....	.....	.....	18	22	22	14	19	.....	.....	.....
Iroquois.....	.....	.....	.....	.....	.....	3	13	9	3	9	8	25	19
Jackson.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jasper.....	10	25	19	10	19	.....	.....	.....	.....	.....	.....	.....	.....
Jefferson.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jersey.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jo Daviess.....	23	43	39	23	39	.....	.....	.....	.....	.....	.....	.....	.....
Galena.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jo Daviess.....	.....	.....	.....	.....	.....	19	24	24	11	6	.....	.....	.....
Warren.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Johnson.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kane.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kankakee.....	11	37	29	.....	.....	15	36	18	15	18	8	37	16
Kendall.....	.....	.....	.....	.....	.....	35	38	38	18	12	.....	.....	.....
Knox.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lake.....	9	20	12	9	12	4	20	9	4	9	5	20	9
Libertyville.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lake.....	12	45	37	9	25	23	45	45	15	28	19	45	45
Waukegan.....	.....	.....	.....	.....	.....	40	40	40	40	40	4	14	11
LaSalle.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lawrence.....	2	6	6	2	6	.....	.....	.....	.....	.....	.....	.....	.....

Report of Pure-Bred Stock—Continued.

Counties.	COTSWOLD SHEEP.					LILCESTER AND OTHER LONG WOOLS.					SOUTHDOWN.				
	No. of entries....	Amount premiums offered....	Amount premiums paid.....	Owned in County.		No. of entries ..	Amount premiums offered ...	Amount premiums paid	Owned in County.		No. of entries ...	Amount premiums offered ...	Amount premiums paid	Owned in County.	
				Number of entries....	Amount premiums paid.				Number of entries ..	Amount premiums paid.				Number of entries....	Amount premiums paid.
Lee															
Livingston. Fairbury.	28	\$36	\$36	4	\$2						14	\$36	\$28	4	\$2
Logan Lincoln ..						71	\$62	\$54	13						
Logan Atlanta ..						32	18	18			9	18	18		
Macon	32	12	56	32	56		13				38	12	67	38	67
Macoupin	25	36	18								21	36	18		
Madison															
Marion						14	12	12	14	\$12					
Marshall						32	60	60			22	60	60		
Mason															
Massac															
McDonough ..															
McHenry Woodstock	3	48	4			6	48	19			15	48	36	10	20
McHenry Marengo	7	11	8	7	8	4	21	8	4	8	6	10	7	6	7
McLean		58	80												
Menard						10	48	17	6	4	16	48	24	5	8
Mercer						7	32	28	5	19					
Monroe															
Montgomery ..				3	5										
Morgan	35	78	78	35	78						29	78	78	29	78
Moultrie							12				9	32	32	9	32
Ogle						10	60	24	10	24	3	60	6	3	6
Oregon															
Ogle Rochelelle						20	36	45							
Peoria															
Perry															
Platt						4	16	6	4	6					
Pike						4	38	30	4	30	10	38	38	10	38
Pope	23	54	54	23	54										
Pulaski															
Putnam	7	17	15	4	15	3	17	6	1	2	4	17	11	4	11
Randolph	15	32	35	15	35						13	32	23	13	23
Sparta															
Randolph Chester	13	24	24	13	24							24			
Richland						12	24	24	7	10	5	24	18		
Rock Island ..															
Saline															
Sangamon															
Schuyler						11	22	18	7	18					
Scott															
Shelby															
Stark						25	42	35	7	35	1		4	1	4
St. Clair															
Stephenson ..															
Tazewell	22	23	18	12	5	9									
Union															
Vermilion						32	37	37	32	37					
Cathin															
Vermilion Danville						28	33	33	28	33					
Vermilion															
Hoopeston						20	35	35	5	16					
Wabash						25	43	43	16	17					
Warren						21	30	30	11	25					
Washington ..															
Wayne						12	29	25	3	4	7	29	18		
White						5	28	13			3	28	7	3	7
Whiteside															
Sterling						16	33	28			13	32	29		

Report of Pure-Bred Stock—Continued.

Counties.	COTSWOLD SHEEP.				LEICESTER AND OTHER LONG WOOLS.				SOUTHDOWN.			
	No. of entries....	Amount prem-iums offered....	Amount prem-iums paid....	Owned in County. Number of entries..	No. of entries....	Amount prem-iums offered....	Amount prem-iums paid....	Owned in County. Number of entries..	No. of entries....	Amount prem-iums offered....	Amount prem-iums paid....	Owned in County. Number of entries..
Whiteside, Morrison. }	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whiteside, Albany. }	2	\$6	.....	2	2	\$6	.....	2	1	\$6	.....	1
Will .....	.....	.....	.....	.....	12	39	\$31	12	.....	.....	.....	.....
Williamson .....	.....	.....	.....	.....	.....	22	22	29	.....	.....	.....	.....
Winnebago .....	.....	.....	.....	.....	29	.....	22	29	.....	.....	.....	.....
Woodford ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
State Fair ...	179	215	\$215	..	37	215	215	..	63	215	215	...
Total	592	\$1,132	\$1,023	303	873	\$1,805	\$1,507	491	517	\$1,442	\$1,118	243
				\$574				\$730				\$500

Counties	OXFORD AND OTHER DOWNS.				AMERICAN MERINOS.				SPANISH MERINO AND OTHER FINE WOOLS.					
	No of entries..	Amount premiums offered....	Amount premiums paid.....	Owled in County.	No. of entries....	Amount premiums offered..	Amount premiums paid.....	Owled in County.	No. of entries....	Amount premiums offered....	Amount premiums paid.....	Owled in County.	Amount premiums paid.	
				Number of entries....				Number of entries....				Number of entries....		
Lee.....														
Livingston.....					17	\$36	\$36	3						
Fairbury.....														
Logan.....									29	\$31	\$49	10	\$19	
Lincoln.....									8	18	18			
Macoupin.....									14	26	59	14	59	
Madison.....														
Marion.....									3	12	10	3	10	
Marshall.....	11	\$24	\$21						14	60	54			
Mason.....														
Massac.....														
McDonough.....														
McHenry.....					36	48	36	28	\$27					
Woodstock.....														
McHenry.....														
Marengo.....										21				
McLean.....														
Menard.....									7	63	16			
Mercer.....					10	48	44	10	44					
Monroe.....														
Montgomery.....					20	15	15	20	15					
Morgan.....										12				
Moultrie.....														
Ogle.....					1	60	3	1	3					
Oregon.....														
Ogle.....	20	36	30		9	36	17		25	36	36	18	8	
Rochelle.....									8	54	54			
Peoria.....														
Perry.....														
Piatt.....	6	16	14	6	\$14				5	16	12	5	12	
Pike.....									11	38	38	11	38	
Pope.....														
Pulaski.....														
Putnam.....						17								
Randolph.....					8	32	15	8	15					
Spurta.....														
Randolph.....														
Chester.....									4	24	9	4	9	
Richland.....									5	24	20	5	20	
Rock Island.....														
Saline.....														
Sangamon.....														
Schuyler.....														
Scott.....														
Shelby.....	8	30	20	8	20				6	32	25	6	25	
Stark.....	6		22	6	22	1		4	1	4	10	21	21	
St. Clair.....														
Stephenson.....														
Tazewell.....	11	23	19	3	6	8	23	23	4	23				
Union.....														
Vermilion.....						23	37	37	23	37				
Cattin.....														
Vermilion.....										11	23	23	11	23
Danville.....														
Vermilion.....						13	35	32						
Hoopest'n.....														
Wabash.....														
Warren.....										10	30	28	10	28
Washington.....										13	29	27	13	27
Wayne.....														
White.....					9	30	23							
Whiteside.....										6	32	22		
Sterling.....														

Report of Pure-Bred Stock—Continued.

Counties.	BERKSHIRE SWINE.					POLAND CHINA.					CHESTER WHITE.				
	No. of entries...	Amount premium...	Amount premium...	Owned in County.	Amount premium...	No. of entries...	Amount premium...	Amount premium...	Owned in County.	Amount premium...	No. of entries...	Amount premium...	Amount premium...	Owned in County.	Amount premium...
Adams.....	13	\$83	\$55	2	\$3	43	\$63	\$63	20	\$16	...	...	...	...	...
Alexander.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bond.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Boone.....	17	37	24	17	24	18	37	30	12	17	19	\$37	\$27	19	\$27
Brown.....	33	80	74	11	13	38	80	80	20	32	11	80	45	...	...
Bureau.....	7	59	30	7	30	67	129	67	122	67	122	59	55	16	55
Calhoun.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carroll.....	14	51	36	14	36	18	51	44	18	44	8	51	38	8	38
Cass.....	13	73	55	3	10	3	73	12	3	12	8	73	50	1	50
Champaign.....	15	25	18	15	18	43	30	29	43	29	...	...	...	...	...
Christian.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Clark.....	3	20	10	3	10	2	7	5	2	6	...	...	...	...	...
Clay.....	11	30	30	...	...	12	30	30	2	9	6	30	30	6	30
Clinton.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Colas.....	22	84	76	13	17	36	84	79	23	68	...	...	...	...	...
Cook.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Crawford.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cumberland.....	...	...	...	...	...	5	17	12	...	...	3	8	5	...	...
DeKalb.....	19	29	18	19	18	18	...	21	13	21	...	...	...	...	...
DeKalb.....	18	38	12	...	...	23	30	16	...	...	...	...	...	...	...
DeWitt.....	5	48	16	4	14	...	...	...	...	...	13	48	37	5	18
Douglas.....	9	36	36	...	...	15	36	36	...	...	16	65	16	...	...
DuPage.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Edgar.....	22	61	31	18	56	30	81	81	29	81	...	...	...	...	...
Edwards.....	14	43	37	14	37	11	42	32	11	32	...	...	...	...	...
Effingham.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fayette.....	14	20	19	14	19	7	21	9	7	9	...	14	...	...	...
Ford.....	11	56	56	...	...	26	48	48	...	...	1	2	2	...	...
Faxon.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ford.....	9	34	28	...	...	16	22	22	11	22	...	...	...	...	...
Gibson City.....	5	15	9	5	9	3	15	7	3	7	...	...	...	...	...
Franklin.....	10	38	40	10	40	30	86	75	30	75	19	86	66	19	66
Fulton.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fulton.....	21	68	68	...	...	30	68	68	...	...	24	68	68	...	...
Avon.....	15	61	50	10	32	4	60	17	4	17	7	50	32	5	24
Gallatin.....	27	60	50	18	10	27	60	60	12	35	...	...	...	...	...
Greene.....	2	36	5	...	...	19	36	37	21	37	...	...	...	...	...
Grundy.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hamilton.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hancock.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hardin.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Henderson.....	24	68	65	20	36	11	68	44	11	44	...	...	...	...	...
Henry.....	19	42	42	11	24	35	42	42	29	39	18	39	42	8	42
Iroquois.....	14	34	12	...	...	8	34	8	...	...	...	34	...	...	...
Jackson.....	1	15	2	1	2	1	15	3	1	3	...	...	...	...	...
Jasper.....	5	54	18	5	18	10	54	41	10	41	...	...	...	...	...
Jefferson.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Jersey.....	31	80	80	13	10	30	80	80	18	35	...	...	...	...	...
Jo Daviess.....	20	59	49	20	49	...	...	...	...	...	...	...	...	...	...
Galena.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Jo Daviess.....	...	...	...	...	...	12	20	19	12	19	7	14	12	7	12
Warren.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Johnson.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kane.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kankakee.....	...	...	...	...	...	25	64	56	25	56	...	...	...	...	...
Kendall.....	25	90	43	25	43	20	90	39	20	39	...	90	...	...	...
Knox.....	38	50	50	16	18	21	50	50	13	50	14	50	50	9	21
Lake.....	2	29	3	2	3	2	29	4	2	4	...	29	...	...	...
Libertyville.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lake.....	21	45	35	15	18	29	45	42	14	18	6	45	27	6	27
Waukegan.....	16	51	31	16	31	78	51	51	78	51	30	51	47	30	47
LaSalle.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lawrence.....	6	30	15	...	...	20	45	44	14	16	...	...	...	...	...

Report of Pure-Bred Stock—Continued.

Counties.	BERKSHIRE SWINE.					POLAND CHINA.					CHESTER WHITE.				
	No. of entries....	Amount premiums offered....	Amount premiums paid.....	Owned in County.		No. of entries ...	Amount premiums offered ..	Amount premiums paid	Owned in County.		No. of entries ...	Amount premiums offered. ...	Amount premiums paid.	Owned in County.	
				Number of entries....	Amount premiums paid.				Number of entries ...	Amount premiums paid.					
Lee.....															
Livingston.....	10	\$28	\$24	5	\$10	20	\$28	\$25	20	\$25	5	\$28	\$18	5	\$18
Fairbury.....															
Logan.....	27	68	66	21	60	27	68	63	6	17					
Lincoln.....															
Logan.....	12	39	38			23	39	39			16	39	32		
Albany.....	22	58	42	22	42	18	58	53	18	53	10	58	32	10	32
Macoupin.....	32	75	37			34	75	37			10	75	37		
Madison.....															
Marion.....	22	35	35	15	10	8	35	22	8	22					
Marshall.....	58	111	111			139	111	111			13	42	42		
Mason.....															
Massac.....	1	16		1	1										
McDonough.....															
McHenry.....	7	28	11	1	3	24	28	18	18	12	7	28	15		
Woodstock.....															
McHenry.....	16	25	25	16	25	14	25	14	14	14		25			
Marengo.....															
McLean.....		63	102				55	122							
Menard.....	11	80	37	11	37	7	80	18		20	80	22	7		5
Mercer.....	9	43	43	8	85	63	66	66	50	38	10	28	23	10	28
Monroe.....															
Montgomery.....										8	36	18	3		18
Morgan.....	52	114	114	42	82	43	114	114	28	42	28	114	109	19	76
Moultrie.....	17	76	43	17	43	17	76	76	17	76					
Ogle.....															
Oregon.....	9	40	20	9	20	5	40	9	5	9					
Ogle.....															
Rochelle.....	13	46	34			35	46	43	18	35	9	46	28		
Peoria.....	13	57	42			18	57	52		15	57	50			
Perry.....	6	27	19	6	19	6	27	18	6	18					
Piatt.....	14	15	15	14	15	4	15	15			15				
Pike.....	19	66	58	19	58	40	66	59	40	59	14	67	59	14	59
Pope.....	5	32	8	5	32	1	8	5	1	5					
Pulaski.....															
Putnam.....	16	39	39	10	19	30	39	30	30	39	10	39	36	10	36
Randolph.....	8	60	30	8	30	7	60	26	7	26	2	60	5	2	5
Sparta.....															
Randolph.....	8	28	25	8	25	8	28	28	8	28					
Chester.....															
Richland.....	27	120	79	16	45	38	120	98	23	46	3	120	10	3	10
Rock Island.....															
Saline.....															
Sangamon.....															
Schuyler.....	24	54	54	24	54	28	54	54	16	10					
Scott.....															
Shelby.....	4	44	36	4	36	5	26	16	5	16					
Stark.....	11	36	36	11	36	24		34	24	34	3		17	3	17
St. Clair.....															
Stephenson.....															
Tazewell.....	10	57	31	8	23	25	57	53	12	29	15	57	44		
Union.....															
Vermilion.....	9	64	48	6	13	30	64	56	21	49					
Carlisle.....															
Vermilion.....	49	95	95	49	95					53	105	105	53	105	
Danville.....															
Vermilion.....	26	73	70	2	6	55	73	73	39	58					
Hoopeston.....															
Wabash.....		33					33				33				
Warren.....	21	97	97	8	32	17		97	17	97					
Washington.....															
Wayne.....	22	47	42	9	12	22	50	48	11	22	6	46	17	1	2
White.....	10	31	29	4	8	10	32	28	10	28	5	32	5	5	5
Whiteside.....															
Sterling.....	6	54	32			13	33	28							

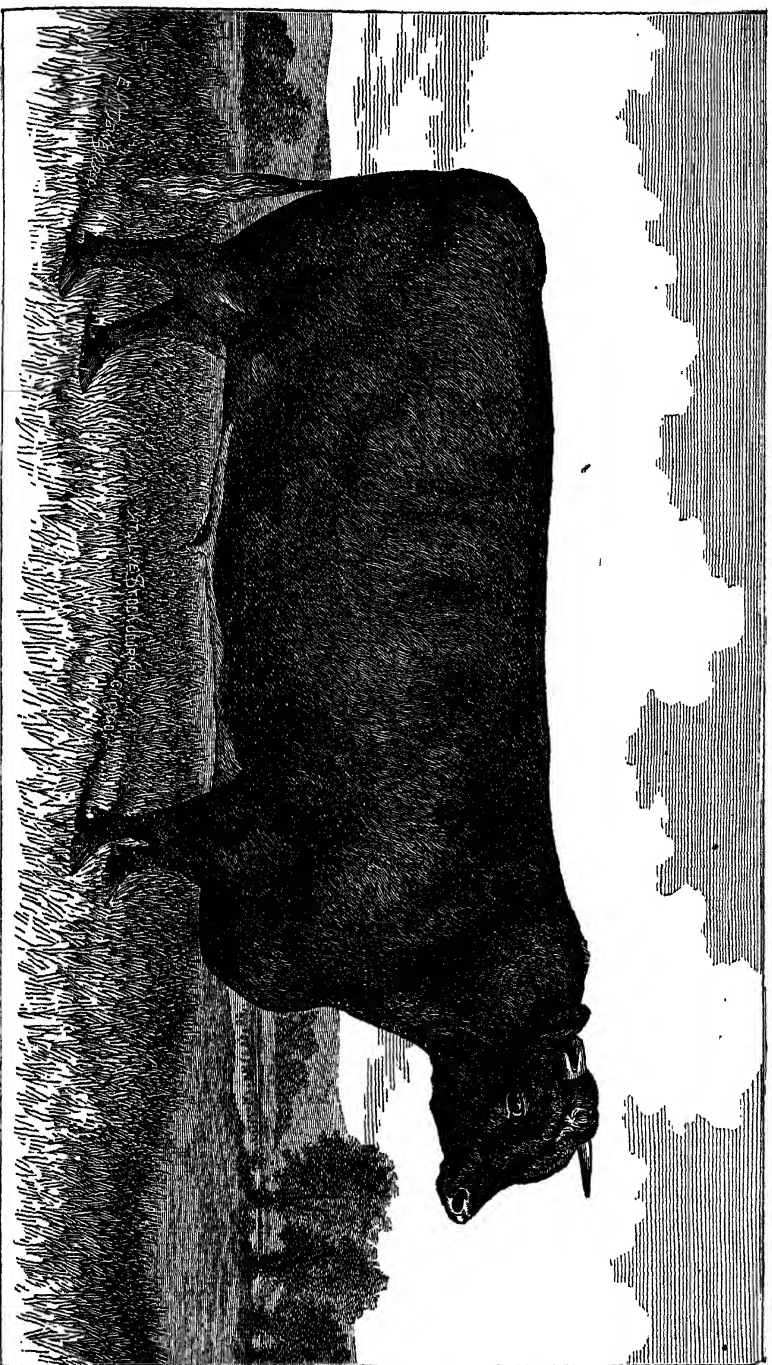
Report of Pure-Bred Stock—Continued.

Counties.	BERKSHIRE SWINE.				POLAND CHINA.				CHESTER WHITE.			
	No. of entries...	Amount premiums offered ..	Amount premiums paid	Owed in County.	No. of entries...	Amount premiums offered....	Amount premiums paid	Owed in County.	No. of entries ...	Amount premiums offered ...	Amount premiums paid	Owed in County.
				Number of entries... Am't premiums paid.				Number of entries... Am't premiums paid.				Number of entries... Am't premiums paid.
Whiteside..	...	...	...	...	...	...	...	...	...	...	...	...
Morrison..	...	...	...	...	...	...	...	...	...	...	...	...
Whiteside..	...	\$10	...	...	8	\$10	...	8	2	\$10	...	2
Albany..	...	...	...	...	...	...	...	...	...	...	...	...
Will..	19	77	\$44	19	33	77	\$71	33	21	77	\$65	21
Williamson..	7	42	12	7	...	...	...	...	...	...	...	...
Winnebago..	17	36	34	10	21	36	29	21	8	36	15	...
Woodford..	...	...	...	...	...	...	...	...	...	...	...	...
State Fair...	158	295	295	...	182	305	305	...	74	295	285	...
Total.....	1399	\$4,410	\$3,425	756	1955	\$4,222	\$3,639	1137	588	\$2,674	\$1,743	807
				\$1,647				\$2,124				\$893

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Report of Pure-Bred Stock—Continued.

Counties.	Essex.				Suffolk.				Small Yorkshire.						
	No. of entries....	Amount premiums offered....	Amount premiums paid.....	Owning in County.	No. of entries	Amount premiums offered....	Amount premiums paid	Owning in County.	No. of entries....	Amount premiums offered....	Amount premiums paid.....	Owning in County.			
				Number of entries.... Amount premiums paid.				Number of entries.... Amount premiums paid.				Number of entries.... Amount premiums paid.			
Whiteside ..	..	..	..	..	..	..	..	..	..	..	..	..
Morrison ..	..	..	..	..	..	..	..	..	..	..	..	..
Whiteside ..	2	\$10	..	2	..	..	..	..	..	..	..	..
Albany ..	..	..	..	..	..	..	..	..	..	..	..	..
Will. ....	..	..	..	..	19	\$77	\$68	19	\$68	..	..	..
Williamson ..	..	..	..	..	..	36	80	12	24	..	..	..
Winnebago ..	..	..	..	..	17	..	..	..	..	..	..	..
Woodford ..	..	..	..	..	..	..	..	..	..	..	..	..
State Fair ...	26	295	\$295	..	66	295	295	..	..	..	..	..
Total,	136	\$881	\$573	68	\$189	137	\$811	\$536	50	\$186	6	\$28	\$18	5	\$18



SHORT HORN BULL, "FREDERICK WILLIAM 29185."
Exhibited by J. H. FORTS & SONS, JACKSONVILLE, ILL. Awarded Sweepstakes Premium Illinois State Fair, 1879.

AGRICULTURAL STATISTICS FOR 1878,

AS RETURNED BY ASSESSORS, MAY, 1879.

Counties.	CORN.		WINTER WHEAT.		SPRING WHEAT.	
	Acres.	Bushels produced.	Acres.	Bushels produced.	Acres.	Bushels produced.
Adams	90,541	2,385,695	68,524	896,352	180	2,348
Alexander						
Bond						
Boone	31,080	1,024,168	891	8,326	2,979	39,033
Brown	30,933	874,714	21,332	224,019	77	994
Bureau						
Calhoun	13,162	322,758	15,657	227,558		
Carroll	65,544	2,462,786	8,294	65,631	11,845	128,467
Cass	48,929	1,485,336	14,132	216,589	54	350
Champaign	212,905	5,989,405	11,181	173,165	893	14,692
Christian	137,207	3,576,123	28,770	377,950	585	6,093
Clark	48,745	903,801	31,191	360,062	40	210
Clay	35,995	425,342	21,376	255,314		
Clinton	47,842	1,009,227	63,242	864,038		
Coles	70,986	2,082,729	12,988	173,846	88	1,718
Cook	52,301	1,899,326	60	1,121	4,012	159,822
Crawford	36,301	687,159	32,740	391,946	40	400
Cumberland	32,990	432,876	21,641	218,788	19	171
DeKalb	113,920	3,906,554	125	2,371	9,767	113,191
DeWitt	76,318	2,217,387	2,653	40,111	3,120	30,628
Douglas	63,464	2,127,836	4,885	65,633	358	4,067
DuPage	33,717	1,414,594	207	3,977	3,454	50,220
Edgar	101,548	4,413,936	22,339	279,570	595	12,429
Edwards	18,938	468,783	19,822	257,634	13	160
Effingham	38,065	417,394	31,098	394,821	6	250
Fayette	47,768	735,100	35,249	451,635	29	250
Ford	127,802	3,494,231	239	3,625	320	8,362
Franklin						
Fulton						
Gallatin	30,098	682,300	18,349	178,573		
Greene	52,463	1,641,640	41,930	679,937	38	1,090
Grundy	95,133	239,801	92	981	622	5,974
Hamilton	28,691	584,686	25,202	217,926	27	313
Hancock	128,903	3,475,034	21,468	277,880	2,713	19,558
Hardin						
Henderson	71,497	2,370,202	4,443	65,668	5,386	64,483
Henry	194,419	7,279,264	303	4,643	13,311	163,789
Iroquois	239,983	5,970,540	2,030	30,022	1,604	15,405
Jackson	25,462	612,382	49,588	610,822	38	200
Jasper	33,880	262,097	22,979	250,452	685	11,046
Jefferson	47,954	706,031	46,611	500,659	11	350
Jersey						
JoDavies	62,181	2,367,709	1,508	36,593	4,365	42,274
Johnson	18,847	289,186	17,508	132,018	12	149
Kane	50,663	1,954,401	51	1,082	3,071	47,563
Kankakee	36,007	3,423,622	376	6,469	1,817	19,029
Kendall	71,780	2,742,055	68	1,107	1,926	26,287
Knox	153,626	4,931,591	2,255	34,991	8,835	90,191
Lake	24,394	1,203,076	76	1,590	2,582	20,788
LaSalle	258,354	8,259,680	430	9,511	12,476	192,498
Lawrence	30,481	533,218	34,225	450,837	916	23,362
Lee						

Agricultural Statistics, 1878—Continued.

Counties.	CORN.		WINTER WHEAT.		SPRING WHEAT.	
	Acres.	Bushels produced.	Acres.	Bushels produced.	Acres.	Bushels produced.
Livingston	257,405	5,942,564	490	6,627	6,097	105,756
Logan	171,982	4,885,383	6,439	117,541	1,793	19,207
Macon						
Macoupin	101,475	1,920,070	83,628	1,131,412	90	1,130
Madison	86,798	1,983,433	100,685	1,476,917		
Marion	52,344	792,620	24,697	334,065		205
Marshall						
Mason						
Massac	11,438	263,953	16,109	96,212	64	395
McDonough						
McHenry						
McLean	261,914	8,188,020	3,790	58,307	5,910	63,410
Menard	63,286	1,875,098	8,987	125,149	891	6,244
Merced	108,950	4,209,873	1,215	22,209	12,921	161,477
Monroe	17,708	510,627	48,482	700,831		
Montgomery	107,020	1,577,858	63,762	827,188	195	2,394
Morgan						
Moultrie	65,825	1,615,827	7,116	97,647	202	2,097
Ogle	114,790	4,273,664	2,031	51,223	15,693	168,150
Peoria	97,335	2,819,036	3,695	60,674	3,349	31,073
Perry	13,414	244,170	39,374	453,779		
Platt	98,941	2,484,660	4,211	62,181	695	18,043
Pike	74,552	2,314,269	80,838	1,042,725	66	168
Pope	19,775	383,788	13,468	69,823	97	1,015
Pulaski	11,917	476,600	11,909	173,755		
Putnam	30,061	1,201,451	301	5,035	2,559	41,803
Randolph						
Richland	29,277	414,113	34,502	433,117		
Rock Island	64,593	2,572,849	886	6,452	7,678	89,535
Saline	20,729	372,855	14,925	135,001	73	790
Sangamon	154,509	5,181,801	26,809	407,475	1,115	324,897
Schuyler	46,590	1,097,644	20,786	224,894	732	4,236
Scott	31,212	1,069,771	22,387	353,551	44	440
Shelby	82,708	1,794,543	30,144	399,166	332	5,283
Stark	61,900	2,342,210	184	2,315	3,754	48,496
St. Clair	40,781	1,237,490	107,937	1,731,520		
Stephenson	78,191	2,997,489	4,401	102,823	14,852	152,658
Tazewell	125,749	3,773,510	10,729	150,058	4,040	34,724
Union	18,223	453,321	23,353	228,494	117	1,220
Vermilion	161,215	4,526,704	20,973	311,271	601	6,475
Wabash	17,814	499,675	23,177	356,672		
Warren	126,791	4,123,561	847	13,099	6,298	77,439
Washington	31,313	518,574	78,410	968,306		
Wayne	42,863	761,123	29,016	302,156	5	50
White	43,025	1,192,240	44,838	476,521		
Whiteside	122,533	4,351,551	493	8,424	16,239	193,947
Will	131,635	4,645,891	323	8,040	3,141	37,011
Williamson	25,621	516,491	34,826	218,021		
Winnebago	74,651	3,386,852	859	16,500	5,075	61,690
Woodford	115,930	2,841,363	2,190	28,175	7,836	81,593
Total	6,640,226	193,080,845	1,806,651	23,293,388	221,793	3,075,314

Agricultural Statistics, 1878—Continued.

Counties.	OATS.		RYE.		BARLEY.	
	Acres.	Bushels produced.	Acres.	Bushels produced.	Acres.	Bushels produced.
Adams.....	23,231	630,386	958	8,946	17	100
Alexander.....						
Bond.....						
Boone.....	24,804	908,827	2,903	44,555	246	6,880
Brown.....	4,491	111,504	328	2,816		
Bureau.....						
Calhoun.....	1,067	22,436	10	66	2	40
Carroll.....	27,416	1,214,383	6,403	112,401	3,477	105,592
Cass.....	7,776	222,044	631	5,795		
Champaign.....	34,340	1,192,677	8,183	86,463	14	77
Christian.....	20,818	665,263	4,272	36,047	121	2,524
Clark.....	8,428	171,801	361	2,858		
Clay.....	9,292	233,384	471	3,557	1	8
Clinton.....	17,391	496,449	281	1,542	3	128
Coles.....	11,257	416,214	650	5,128	145	206
Cook.....	55,212	2,171,533	1,229	22,256	147	3,154
Crawford.....	4,671	91,143	118	920	20	690
Cumberland.....	8,138	138,375	317	6,548		
DeKalb.....	43,380	1,816,740	1,001	16,562	1,365	31,816
DeWitt.....	13,866	519,424	4,940	51,020	67	1,060
Douglas.....	10,203	290,739	2,379	18,568	3	50
DuPage.....	32,165	1,491,974	1,642	36,934	110	2,985
Edgar.....	12,008	491,869	1,049	8,426	14	235
Edwards.....	4,265	102,296				
Effingham.....	16,163	535,623	698	6,214		
Fayette.....	12,137	84,378	1,004	6,637		
Ford.....	16,067	437,567	3,725	41,548		
Franklin.....						
Fulton.....						
Gallatin.....	1,763	37,819	1	13		
Greene.....	2,732	74,912	16	255		
Grundy.....	10,412	324,403	1,727	18,071	75	1,055
Hamilton.....	5,732	123,688	54	501		
Hancock.....	32,470	915,227	5,477	56,904	6	100
Hardin.....						
Henderson.....	10,695	395,893	6,896	61,920	2	50
Henry.....	23,544	1,232,045	5,994	85,311	363	10,912
Iroquois.....	34,576	1,054,588	6,567	57,574	189	2,495
Jackson.....	4,622	112,087		628	51	837
Jasper.....	6,018	118,518	325	2,247		
Jefferson.....	11,023	255,897	126	891	11	285
Jersey.....						
JoDavies.....	34,192	1,210,953	2,885	50,111	371	9,300
Johnson.....	2,661	46,305	17	136		
Kane.....	23,511	1,067,273	1,661	33,284	231	5,978
Kankakee.....	29,780	985,232	5,178	48,351	16	160
Kendall.....	18,252	799,010	247	8,463	6	83
Knox.....	28,728	1,123,152	7,843	79,110	73	617
Lake.....	21,579	954,319	4,777	7,165	103	2,462
LaSalle.....	49,038	2,085,696	3,800	50,733	656	16,079
Lawrence.....	3,974	90,206	120	961	135	5,120
Lee.....						
Livingston.....	45,281	1,323,371	8,226	74,086	72	1,169
Logan.....	16,903	595,128	6,130	71,070	107	2,330
Macon.....						
Macoupin.....	16,979	428,609	516	4,025		
Madison.....	14,564	416,708	63	1,196	11	200
Marion.....	13,970	380,049	1,507	13,782	16	
Marshall.....						
Mason.....						
Massac.....	1,849	21,506	20	294		
McDonough.....						
McHenry.....						
McLean.....	52,575	2,069,631	14,966	183,609	50	1,190
Menard.....	8,352	264,072	994	8,009	13	11
Mercer.....	17,351	751,931	5,169	50,196	62	1,180
Monroe.....	6,121	146,903	55	551	57	1,295
Montgomery.....	21,419	549,211	1,642	13,682	83	1,148
Morgan.....						
Moultrie.....	9,630	313,281	2,009	16,673	1	15
Ogle.....	56,724	2,185,666	6,290	126,668	6,405	185,051
Peoria.....	23,502	910,439	11,829	131,787	45	860
Perry.....	7,647	203,804	11	108		

Agricultural Statistics, 1878—Continued.

Counties.	OATS.		RYE.		BARLEY.	
	Acres.	Bushels produced.	Acres.	Bushels produced.	Acres.	Bushels produced.
Platt	14, 974	449, 915	3, 988	41, 068	25	517
Pike	5, 650	136, 433	60	338		
Pope	4, 182	71, 129	6	22		
Pulaski	615	8, 450	50			
Putnam	5, 134	212, 817	1, 380	19, 565	31	800
Randolph						
Richland	7, 556	191, 519	150	1, 512		
Rock Island	11, 814	436, 894	3, 676	51, 232	539	13, 385
Saline	3, 368	50, 485	12	77	6	10
Sangamon	14, 045	466, 199	4, 688	54, 103	19	605
Schuyler	6, 658	182, 566	1, 787	14, 727		
Scott	979	33, 462	473	5, 568		
Shelby	19, 175	491, 970	2, 375	20, 571	5	72
Stark	12, 484	556, 908	1, 790	20, 562	8	260
St. Clair	11, 625	344, 336	132	3, 911	103	3, 222
Stephenson	39, 083	1, 616, 643	12, 395	307, 539	7, 431	201, 622
Tazewell	27, 820	1, 014, 004	10, 067	107, 158	138	2, 076
Union	5, 052	8, 418	52	308	8	57
Vermilion	17, 252	540, 748	3, 663	27, 018	6	179
Wabash	2, 511	61, 345	50	330	9	40
Warren	22, 689	881, 543	5, 278	40, 733	1	30
Washington	18, 272	533, 902	80	1, 067	29	338
Wayne	11, 608	268, 855	133	1, 431	1	3
White	3, 809	75, 560	5	60	1	30
Whiteside	28, 482	1, 232, 621	8, 156	130, 806	2, 043	55, 355
Will	69, 575	2, 772, 188	1, 770	28, 208	62	1, 695
Williamson	5, 687	110, 644	29	878	3	58
Winnebago	42, 779	1, 729, 811	10, 684	178, 551	550	12, 753
Woodford	33, 123	1, 238, 317	7, 043	75, 941	175	3, 810
Total	1, 536, 904	53, 424, 555	238, 191	2, 915, 940	26, 164	703, 294

Agricultural Statistics, 1878—Continued.

Counties.	TIMOTHY MEADOW.		CLOVER MEADOW.		PRAIRIE.		HUNGARIAN AND MILLET.	
	Acres.	Tons produced.	Acres.	Tons produced.	Acres.	Tons produced.	Acres.	Tons produced.
Adams.....	28,715	47,763	2,922	4,266	116	369	1	2
Alexander.....								
Bond.....								
Boone.....	14,756	20,570	1,586	2,213	8,199	8,529	53	59
Brown.....	7,397	10,819	1,807	2,478	29	51	10	50
Bureau.....								
Calhoun.....	1,172	1,458	1,228	1,116	145	104	12	12
Carroll.....	14,385	24,439	6,552	11,327	3,519	4,530	10	20
Cass.....	3,813	5,409	56	434	69	470	33	33
Champaign.....	32,486	40,112	283	409	2,229	2,152	208	276
Christian.....	28,545	35,240	209	266	483	170	25	56
Clark.....	10,846	17,492	1,064	1,134	26	13	22	45
Clay.....	14,816	15,302	12	18	2,550	2,324	6	6
Clinton.....	10,606	10,454	193	157	897	129	40	33
Coles.....	18,699	24,681	392	579	65	101	157	228
Cook.....	33,402	41,811	310	474	66,711	73,938	538	860
Crawford.....	12,243	14,829	584	639			80	51
Cumberland.....	16,379	14,733	123	96			6	11
DeKalb.....	39,258	59,077	2,191	3,761	549	20	159	275
DeWitt.....	13,849	17,823	202	185	26,908	30,917	67	83
Douglas.....	18,811	23,986	641	420	426	366	18	228
DuPage.....	25,852	32,709	249	420	721	657	61	99
Edgar.....	27,500	31,597	413	545	15,157	17,413	250	392
Edwards.....	5,991	6,875	858	1,085	756	501		
Effingham.....	16,870	18,207	24	22	1,897	2,085	20	13
Fayette.....	16,358	14,814	377	547	813	467	180	171
Ford.....	19,626		23		2,661	172	224	
Franklin.....					2,973			
Fulton.....								
Gallatin.....	2,111	2,176	1,180	1,449			15	15
Greene.....	13,211	23,222	572	832	220			
Grundy.....	17,165	19,875	2,211	2,552	12,102	14,232	206	693
Hamilton.....	6,597	9,585	368	422				
Hancock.....	39,735	44,740	1,146	1,086	599	654	16	24
Hardin.....								
Henderson.....	9,415	13,442	142	210	412	505	2	3
Henry.....	30,466	61,052	1,108	1,973	10,535	16,460	137	284
Iroquois.....	39,271	45,820	873	832	11,074	10,178	1,215	1,868
Jackson.....	3,471	15,635	3,008	3,639			84	25
Jasper.....	15,830	15,635	62	68	207	40	5	7
Jefferson.....	10,006	9,150	174	63	651	670	56	45
Jensen.....								
Jo Daviess.....	2,603	32,573	5,244	7,405	2,527	2,834	99	129
Johnson.....	1,934	2,067	1,834	2,179			2	3
Kane.....	34,112	51,771	29	1,079	14,997	18,861	294	375
Kankakee.....	28,594	35,594	506	871	17,846	19,470	470	815
Kendall.....	19,784	29,518	1,415	2,322	9,078	12,212	132	373
Knox.....	39,257	57,087	1,147	2,016	215	283	40	17
Lake.....	24,545	31,347	1,510	2,137	18,585	25,063	104	188
LaSalle.....	51,002	83,304	1,498	2,137	29,206	33,832	374	609
Lawrence.....	7,699	9,643	1,639	2,070	59	46	38	42
Lee.....								
Livingston.....	41,904	52,284	1,474	1,345	15,725	15,398	1,192	6,548
Logan.....	14,408	20,387	327	436	706	607	64	90
Macoupin.....								
Macoupin.....	30,024	40,834	988	1,201	23	10	189	239
Madison.....	17,644	22,231	699	1,086	33	9	105	103
Marion.....	17,535	16,793	86	55	5,660	7,044	17	18
Marshall.....								
Mason.....								
Massac.....	2,113	1,948	379	581			7	12
McDonough.....								
McHenry.....								
McLean.....	52,848	69,200	1,330	3,134	2,699	2,469	185	311
Menard.....	10,168	14,542	204	290	60	60	136	117
Mercer.....	20,451	29,221	681	1,004	1,186	1,719	5	75
Monroe.....	2,564	3,613	4,308	4,150			27	36
Montgomery.....	30,184	32,446	241	157	165	10	73	53
Morgan.....								
Moultrie.....	10,537	13,270	238	239	227	232	364	164
Ogle.....	21,462	31,326	11,510	19,733	4,671	5,693	46	66
Peoria.....	23,689	36,541	1,819	2,752	545	721	4	4
Perry.....	3,034	3,238	164	167	106	110	10	10

Agricultural Statistics, 1878—Continued.

Counties.	TIMOTHY MEADOW.		CLOVER MEADOW.		PRAIRIE.		HUNGARIAN AND MILLET.	
	Acres.	Tons produced.	Acres.	Tons produced.	Acres.	Tons produced.	Acres.	Tons produced.
Piatt.....	14,735	17,863	393	453	972	608	49	77
Pike.....	13,396	17,298	4,616	6,134	33	29	65	74
Pope.....	2,294	1,978	475	401	.....	.....	17	16
Pulaski.....	1,100	.....	774	613	.....	.....	.....	.....
Putnam.....	5,626	9,742	301	613	256	329	22	38
Randolph.....	15,505	16,370	507	566	108	96	1	2
Richland.....	.....	.....	.....	.....	.....	.....	.....	.....
Rock Island.....	13,403	21,168	824	1,603	8,237	13,488	27	86
Saline.....	8,166	8,049	552	366	.....	.....	2	.....
Sangamon.....	27,550	42,618	1,025	1,579	172	140	87	234
Schuyler.....	1,309	16,567	3,175	4,897	19	12	33	39
Scott.....	4,778	8,174	691	1,221	104	208	.....	.....
Shelby.....	23,459	31,821	191	228	84	84	128	150
Stark.....	10,480	16,046	395	653	776	879	54	96
St. Clair.....	8,941	11,416	4,479	4,530	80	40	16	27
Stephenson.....	14,593	26,642	9,367	15,772	4,749	5,321	108	200
Tazewell.....	20,616	36,606	1,828	2,963	1,514	1,924	102	134
Union.....	1,740	1,338	2,830	3,097	65	407	16	21
Vermilion.....	37,430	47,565	283	402	1,317	1,154	491	892
Wabash.....	4,392	5,178	1,214	1,424	1,028	1,101	.....	.....
Warren.....	22,865	35,550	321	518	141	99	66	80
Washington.....	4,232	8,964	62	79	.....	.....	94	93
Wayne.....	10,180	10,733	505	495	7,587	7,709	5	4
White.....	6,125	7,543	2,129	2,341	.....	.....	.....	.....
Whiteside.....	21,369	36,877	3,380	6,187	15,661	21,936	256	435
Will.....	43,869	64,968	1,665	2,645	36,959	45,075	489	561
Williamson.....	2,778	2,670	1,010	1,260	.....	.....	1	1
Winnebago.....	19,154	23,981	4,067	6,887	7,180	8,851	29	45
Woodford.....	19,721	28,809	2,537	3,618	2,518	2,669	83	123
Total.....	1,520,899	2,056,838	122,058	176,635	385,863	448,658	10,241	19,858

Agricultural Statistics, 1878—Continued.

Counties.	BUCKWHEAT.		CASTOR BEANS.		BEANS.		PEAS.	
	Acres.	Bushels produced.	Acres.	Bushels produced.	Acres.	Bushels produced.	Acres.	Bushels produced.
Adams	685	4,776	1	16	43	468	1	57
Alexander								
Bond								
Boone	598	5,895			36	542	10	96
Brown	66	679	2	42	4	26	4	178
Bureau								
Calhoun	6	48						
Carroll	262	1,663			6	106	5	155
Cass	19	131			2	24	2	95
Champaign	497	4,781			34	323	1	20
Christian	291	3,499			10	107	3	240
Clark	248	1,812			109	1,018	4	64
Clay	32	170			55	269	1	28
Clinton	12	67	58	535	11	127	2	65
Coles	29	248	17	174	32	887	2	29
Cook	209	1,914	2	38	68	949	81	2,439
Crawford	72	538			7	80		
Cumberland	240	2,251			236	1,300		
DeKalb	1,175	9,385			28	350	3	85
DeWitt	46	366			5	38	1	21
Douglas	189	1,687			7	75	3	38
DuPage	191	2,065			1	25		
Edgar	79	1,359		5	10	351		2,801
Edwards								
Efingham	94	776			9	135		4
Fayette	91	969			37	848		
Ford	79	765	8	113	13	120	6	180
Franklin								
Fulton								
Gallatin					4	20	1	10
Greene	17	223			10	128	1	93
Grundy	275	2,833			15	147	1	38
Hamilton			4	16	16	78		
Hancock	490	5,740			11	115	1	6
Hardin								
Henderson	237	2,440	1	20	5	36	2	20
Henry	175	2,314			5	149	5	140
Iroquois	1,234	11,790	4	54	35	497	3	138
Jackson	45	235					1	10
Jasper	215	986			30	252		
Jefferson	4	30	115	379	3	15	1	2
Jersey								
Jo Daviess	490	4,371	1	16	28	335	29	429
Johnson					4	8	5	350
Kane	521	6,433			4	44	2	17
Kankakee	633	6,643			41	280		
Kendall	271	2,929			5	40		
Knox	161	1,460			38	1,293	18	285
Lake	189	1,707	1	6	27	422	1	20
LaSalle	409	4,463			35	605	13	210
Lawrence	91	729			31	174		
Lee								
Livingston	630	5,158			51	537	1	18
Logan	30	171	4	50	8	106	3	50
Macon	165	1,426	1	13	13	164		10
Macoupin	61	669			8	70	2	123
Madison	2	40	10	100	21	50	81	5,380
Marion	129	885	18	92	34	221	38	235
Marshall								
Mason								
Massac						15	10	102
McDonough								
McHenry								
McLean	173	2,016	5	80	10	126	1	30
Menard	49	549			8	39	3	100
Mercer	218	1,808			47	608	2	50
Monroe								
Montgomery	123	1,738		19	13	151	35	1,693
Morgan								
Moultrie	92	677	2		7	91		
Ogle	420	3,816			25	385	3	270
Peoria	233	2,535			6	110	1	
Perry			2	35				

Agricultural Statistics, 1878—Continued.

Counties.	BUCKWHEAT.		CASTOR BEANS.		BEANS.		PEAS.	
	Acres.	Bushels produced.	Acres.	Bushels produced.	Acres.	Bushels produced.	Acres.	Bushels produced.
Piatt	144	1,542	.....	.....	14	276	2	200
Pike	19	217	1	4	10	67	10	614
Pope .....	.....	.....	1	10	5	17	.....	.....
Pulaski .....	.....	50	.....	.....	.....	.....	61	.....
Putnam	9	70	.....	.....	.....	.....	.....	.....
Randolph	13	317	8	60	.....	.....	1	90
Richland	53	442	.....	.....	9	97	.....	.....
Rock Island	269	2,883	.....	.....	7	87	3	102
Saline .....	.....	.....	.....	.....	3	3	.....	.....
Sangamon	57	587	.....	.....	5	94	4	187
Schuyler	189	1,537	8	64	36	186	2	206
Scott	11	120	.....	.....	1	14	.....	5
Shelby	290	5,597	1	6	22	262	.....	193
Stark	33	274	.....	.....	2	33	.....	.....
St. Clair	15	220	.....	.....	11	805	17	1,140
Stephenson	179	2,146	1	5	16	246	1	11
Tazewell	179	1,965	.....	.....	3	66	15	1,560
Union	10	60	1	2	2	2	2	.....
Vermilion	358	3,878	1	6	18	567	1	100
Wabash	16	170	.....	.....	12	47	.....	.....
Warren	240	1,808	.....	.....	8	75	1	80
Washington	1	4	13	103	3	20	1	40
Wayne	91	562	35	230	49	254	1	3
White	1	16	.....	.....	.....	.....	.....	.....
Whiteside	351	3,278	.....	.....	14	179	1	84
Will	231	2,077	.....	.....	6	93	8	96
Williamson .....	.....	.....	13	75	2	14	1	20
Winnebago	153	1,643	22	158	45	540	12	305
Woodford	157	1,419	.....	.....	7	104	.....	.....
Total	16,060	155,340	361	2,528	1,669	18,627	537	21,410

Agricultural Statistics, 1878—Continued.

Counties.	IRISH POTATOES.		SWEET POTATOES.		TURNIPS AND OTHER ROOT CROPS.	
	Acres.	Bushels produced	Acres.	Bushels produced	Acres.	Value of crop produced.
Adams.....	1,741	79,347	71	12,871	87	\$2,936
Alexander.....						
Bond.....						
Boone.....	402	21,668	1	28	8	378
Brown.....	243	16,577	4	441	9	244
Bureau.....						
Calhoun.....	383	17,101	1	60		
Carroll.....	776	40,381	2	75		
Cass.....	251	17,267	90	8,151	3	30
Champaign.....	1,886	141,128	10	1,163	38	513
Christian.....	745	64,411	13	1,313	47	3,144
Clark.....	251	16,847	16	923	21	2,441
Clay.....	203	17,690	3	102	19	276
Clinton.....	866	56,846	10	773	5	246
Coles.....	580	42,566	11	632	31	1,120
Cook.....	11,699	613,765			405	23,006
Crawford.....	306	13,763	6	850	4	40
Cumberland.....	278	11,133	3	60	24	1,007
DeKalb.....	1,503	79,276			17	405
DeWitt.....	308	27,629	4	555	2	172
Douglas.....	203	15,391	4	265	30	200
DuPage.....	3,020	194,278			37	685
Edgar.....	390	32,378	65	2,404	20	2,976
Edwards.....	57	10,699		53		6
Effingham.....	515	24,181	3	124	31	723
Fayette.....	342	19,269	6	464	27	1,429
Ford.....	390	31,794	2	187	7	245
Franklin.....						
Fulton.....						
Gallatin.....	14	6,250	2	180		
Greene.....	390	21,242	70	680	100	3,589
Grundy.....	434	22,283	19	884	14	650
Hamilton.....	204	13,716	12	1,508	12	202
Hancock.....	1,203	84,729	12	1,711	14	4,432
Hardin.....						
Henderson.....	131	12,190	5	490	1	
Henry.....	1,233	83,883	11	479	13	641
Iroquois.....	1,158	74,585	10	298	16	490
Jackson.....	385	18,441	25	1,944	45	1,326
Jasper.....	273	14,380	8	589	9	283
Jefferson.....	281	13,241	28	1,611	29	2,384
Jersey.....						
Jo Daviess.....	1,725	79,056	2	80	28	365
Johnson.....	114	4,323	9	484	14	247
Kane.....	1,116	68,663	1	27	38	198
Kankakee.....	791	49,988	1	20	9	155
Kendall.....	636	34,302			1	26
Knox.....	1,315	79,177	54	2,438	108	7,751
Lake.....	1,267	60,149			11	720
LaSalle.....	2,607	149,901	6	466	26	20,760
Lawrence.....	296	17,462	20	908	27	880
Lee.....						
Livingston.....	1,244	69,288	2	180	23	330
Logan.....	906	74,264	10	1,111	16	1,614
Macon.....	872	73,607	11	2,157	17	2,287
Macoupin.....	478	22,675	10	1,867	20	556
Madison.....	3,709	342,261	27	1,248	44	1,520
Marion.....	314	22,687	8	189	33	1,391
Marshall.....						
Mason.....						
Massac.....	329	12,818	44	1,030	28	871
McDonough.....						
McHenry.....						
McLean.....	1,563	112,891	5	386	34	1,025
Menard.....	303	17,621	23	3,139	2	28
Mercer.....	753	65,379	4	283	10	256
Monroe.....	943	63,751	2	200	6	180
Montgomery.....	451	27,912	3	457	32	359
Morgan.....						
Moultrie.....	301	19,435	2	1,237	48	961
Ogle.....	1,211	78,918	11	1,047	5	322
Peoria.....	1,413	86,851	63	4,360	7	593
Perry.....	147	12,636	9	1,190	2	63

Agricultural Statistics, 1878—Continued,

Counties.	IRISH POTATOES.		SWEET POTATOES.		TURNIPS AND OTHER ROOT CROPS.	
	Acres.	Bushels produced	Acres.	Bushels produced	Acres.	Value of crop produced.
Platt	385	37,280	4	265	3	\$85
Pike	511	34,688	16	420	109	1,095
Pope	1,513	50,487	44	2,707	56	1,685
Pufa-ki	300	12,000	200	10,000	140	.....
Putnam	229	14,155	1	83	.....	.....
Randolph	663	56,215	33	2,915	23	1,253
Richland	311	19,556	11	44	6	97
Rock Island	1,869	142,939	6	450	58	1,461
Saline	77	2,150	9	1,180	3	79
Sangamon	1,266	82,231	20	1,735	22	1,265
Schuyler	245	14,595	5	150	31	349
Scott	233	14,49	18	907	19	491
Shelby	301	42,212	55	1,124	29	1,89
Stark	308	20,774	1	60	1	10
St. Clair	2,636	246,443	30	2,135	423	21,695
Stephenson	1,255	74,757	5	303	16	724
Tazewell	852	49,770	40	3,460	739	2,367
Union	276	14,208	294	15,432	36	920
Vermilion	766	71,191	3	426	49	3,232
Wabash	108	5,384	.....	.....	.....	.....
Warren	525	48,499	2	99	3	107
Washington	436	33,099	20	2,196	14	924
Wayne	448	19,764	11	86	20	4,928
White	280	15,153	14	926	15	723
Whiteside	1,396	96,806	7	631	15	806
Will	3,963	148,075	5	132	71	5,720
Williamson	124	6,653	2	2,105	6	227
Winnebago	1,127	71,490	.....	.....	20	2,425
Woodford	680	37,780	.....	25	9	83
Total	81,460	5,095,477	1,721	116,944	3,775	\$154,149

Agricultural Statistics, 1878—Continued.

Counties.	HEMF (Fibre).		COTTON (Lint).		FLAX (Fibre).	
	Acres.	Pounds produced.	Acres.	Pounds produced.	Acres.	Pounds produced.
Adams.....						
Alexander.....						
Bond.....						
Boone.....					2,870	104,800
Brown.....						
Bureau.....						
Calhoun.....						
Carroll.....					28	
Cass.....						
Champaign.....	51	74,095			3,916	202,106
Christian.....					624	38,900
Clark.....					28	
Clay.....					1,291	704
Clinton.....					20	11,200
Coles.....						
Cook.....					11,124	882,587
Crawford.....						
Cumberland.....					53	
DeKalb.....					7,909	1,130,500
DeWitt.....						
Douglas.....					20	
DuPage.....					4,709	906,800
Edgar.....						
Edwards.....						
Efingham.....						50
Fayette.....						
Ford.....					14,687	1,174,000
Franklin.....						
Fulton.....						
Gallatin.....						
Greene.....						
Grundy.....					515	
Hamilton.....			1	200	5	
Hancock.....						
Hardin.....						
Henderson.....						
Henry.....						
Iroquois.....	327	13,700			19,261	137,992
Jackson.....			9	1,850		
Jasper.....					56	2,500
Jefferson.....					267	4,059
Jersey.....						
JoDavies.....					1,575	380,449
Johnson.....			1	30		
Kane.....					317	2,730
Kankakee.....					2,438	359,529
Kendall.....						
Knox.....						
Lake.....					7,447	
LaSalle.....	12				69	7,000
Lawrence.....						
Lee.....						
Livingston.....					5,653	415
Logan.....	42	11,300				
Macon.....						
Macoupin.....						
Madison.....						
Marion.....	15	100			352	
Marshall.....						
Mason.....						
Massac.....			1	100		
McDonough.....						
McHenry.....						
McLean.....					1,042	39,298
Menard.....						
Mercer.....						
Mouroe.....						
Montgomery.....						
Morgan.....						
Moultrie.....						
Ogle.....					164	20
Peoria.....					528	54,000
Perry.....						

Agricultural Statistics, 1878—Continued.

Counties.	HEMP (Fibre).		COTTON (Lint).		FLAX (Fibre).	
	Acres.	Pounds produced.	Acres.	Pounds produced.	Acres.	Pounds produced.
Piatt			2,487			7,620
Pike						
Pope			2	600		
Pulaski						
Putnam						
Randolph						
Richland					161	435
Rock Island					25	25
Saline						
Sangamon					16	10,000
Schuyler						
Scott						
Shelby		150			78	5,025
Stark						
St. Clair						
Stephenson					2,061	1,600
Tazewell						
Union						
Vermillion					4,737	80
Wabash					47	26,500
Warren						
Washington					15	
Wayne					72	6,360
White	1	10				
Whiteside						
Will					1,908	21,759
Williamson			3	275	8	1,500
Winnebago						
Woodford						
Total	448	99,355	2,484	8,055	96,179	5,509,518

Agricultural Statistics, 1878—Continued.

Counties.	TOBACCO.		BROOM CORN.		SORGHO.		OTHER CROPS NOT NAMED.	
	Acres.	Pounds produced	Acres.	Pounds produced	Acres	Gallons syrup made.	Acres.	Value of crop.
Adams	11	4,375	59	17,965	526	30,852	104	\$2,330
Alexander								
Bond		295	550	284,700			341	5,772
Boone	8	2,513			283	25,391	80	700
Bureau								
Calhoun	7	3,850			15	1,390		
Carroll	9	11,200	8	44,700	27	938	13	65
Cass					55	4,093		
Champaign	10	2,605	621	333,900	429	40,655	541	910
Christian	6	3,170	18	10,870	248	20,067	161	262
Clark	5	3,055	5	3,000	352	25,581	546	2,000
Clay	6	3,190	4	3,500	231	14,153	4	15
Clinton	1	645	32	18,000	96	5,869	13	
Coles	18	5,460	5,507	1,288,038	301	21,653	82	529
Cook	35	19,640	1	1,500	4	494	1,279	80,566
Crawford	7	20,467	5	3,857	4	480		
Cumberland	9	2,735	153	24,540	382	20,675	208	496
DeKalb	1	325	25	144,328	17	40,405	1,288	3,328
DeWitt	1	2,315	27	14,050	184	11,042		
Douglas	8	2,995	2,994	1,528,838	128	16,662	800	
DuPage			6	3,000	1	42	218	705
Edgar	438	5,251	102	45,570	172	23,690	164	86
Edwards	2	1,200	5	2,500	119	12,978		
Effingham	2	520			285	17,191	31	453
Fayette	10	6,847	15	5,695	216	15,440	20	204
Ford			45	11,000	116		55	690
Franklin								
Fulton								
Gallatin	29	18,100			253	14,849	114	
Greene	2	1,475	5	4,000	64	5,568	61	1,785
Grundy					19	1,245	57	480
Hamilton	304	196,135			306	18,685		
Hancock	8	4,381	52	14,812	532	47,801	374	945
Hard'n								
Henderson	1	350	36	77,000	119	8,523	1	100
Henry		306	2,944	2,448,507	54	9,923	219	523
Iroquois	3	1,524	45	14,610	310	25,699	36	15
Jackson	9	5,700			105	7,901	347	3,536
Jasper	9	3,937	1	400	337	17,587	212	18
Jefferson	24	13,280	6	500	232	10,960	104	3,865
Jersey								
Jo Daviess	246	435,420	5	1,005	19	1,261	37	247
Johnson	307	168,090			196	10,981		
Kane							643	2,073
Kankakee	1	162	33	18,900	55	5,300	460	1,842
Kendall	4	210			3	244	94	2,538
Knox	2	800	1,432	663,400	196	13,150		
Lake			8	6,000	1	49	29	567
LaSalle		10	30	14,200	92	5,594	796	2,567
Lawrence	7	1,835	10	5,055	297	15,627		
Lee								
Livingston	1	290	58	19,725	202	15,627	34	114
Logan	1	740	7	3,650	75	8,687	20	910
Macon	21	1,650	50	14,024	165	33,377	56	874
Macoupin		2,739	20	93,625	139	11,856	228	552
Madison	7	39	12	9,800	112	7,790	1,774	
Marion	12	7,458	34	13,160	425	18,310	4	35
Marshall								
Mason								
Massac	102	58,952			126	8,346	1	137
McDonough								
McHenry								
McLean	3	940	47	19,300	152	11,996	105	2,417
Menard				2,000	23	1,751	74	225
Mercer		745	267	130,725	201	15,613	24	150
Monroe	1	100	1	1,035	79	4,790	1	10
Montgomery	1	1,000	26	9,750	98	7,491	420	1,750
Morgan								
Moultrie	9	3,855	81	57,000	359	30,063		
Ogle	1	100	1	1,577	27	1,922	118	107
Peoria	1	1,600	62	42,000	85	9,173	26	500
Perry					74	6,674		

Agricultural Statistics, 1878—Continued.

Counties.	TOBACCO.		BROOM CORN.		SORGHO.		OTHER CROPS NOT NAMED.	
	Acres.	Pounds produced.	Acres.	Pounds produced.	Acres.	Gallons syrup made.	Acres.	Value of crop.
Piatt.....	2	4,553	1,326	479,310	108	11,894	1	.....
Pike.....	11	5,500	19	16,000	152	11,017	2,284	450
Pope.....	66	32,440	3	100	430	16,202	.....	.....
Pulaski.....	300	.....	.....	.....	175	131,251	.....	.....
Putnam.....	.....	.....	.....	.....	28	3,157	.....	.....
Randolph.....	9	5,595	14	7,488	227	15,766	2	70
Richland.....	1	1,540	.....	.....	250	16,892	45	321
Rock Island.....	.....	50	82	34,500	59	3,420	41	4,545
Saline.....	766	533,885	.....	.....	252	12,704	.....	.....
Sangamon.....	9	2,742	11	6,365	45	4,256	94	1,347
Schuyler.....	6	3,495	108	32,700	413	31,356	48	541
Scott.....	5	3,570	8	3,050	48	4,482	2	40
Shelby.....	19	4,901	145	68,000	300	22,427	24	1,012
Stark.....	1	700	68	33,000	42	2,732	1,420	.....
St Clair.....	.....	.....	40	20,000	31	2,176	.....	.....
Stephenson.....	124	124,940	1	1,018	16	1,081	320	554
Tazewell.....	.....	915	1	1,000	69	6,886	80	494
Union.....	1	50	.....	.....	92	5,265	2,641	8,285
Vermilion.....	6	4,892	290	131,144	270	35,992	424	810
Wabash.....	.....	.....	17	4,000	101	5,195	.....	.....
Warren.....	1	150	122	520,000	181	12,497	.....	.....
Washington.....	9	3,990	10	2,100	138	8,868	15	.....
Wayne.....	50	33,445	7	1,650	594	30,593	124	920
White.....	30	16,085	6	2,200	298	14,142	120	1,830
Whiteside.....	1	150	.....	.....	55	4,298	11	100
Will.....	4	8,000	18	5,100	27	2,376	.....	.....
Williamson.....	729	435,105	.....	.....	490	26,463	500	4,000
Winnebago.....	20	6,000	418	2,538,000	17	1,332	149	2,970
Woodford.....	1	659	29	18,020	83	6,771	51	1,770
Totals.....	3,883	2,268,492	18,248	11,218,168	14,638	1,174,549	20,818	\$157,862

Agricultural Statistics, 1878—Continued.

Counties.	APPLE ORCHARD.		PEACH ORCHARD.		PEAR ORCHARD.		VINEYARDS.		FRUITS AND BERRIES, not included in Orchards.	
	Acres	Bushels produced.	Acres	Bushels produced.	Acres	Bushels produced.	Acres	Bushels produced.	Acres	Value of crop produced.
Adams	6,805	110,386	1,474	34,179	12	280	71	9,181	194	\$7,602
Alexander										
Boone										
Brown	1,762	49,714							18	531
Bureau	1,807	43,507	118	9,375	3	110	13	727	1	90
Calhoun	1,756	27,082	33	1,395			9	195		
Carroll	1,642	21,576							6	400
Cass	1,072	37,723	33	869			16	1,190	1	120
Champaign	4,977	56,457	95	1,277	4	65	19	243	20	459
Christian	3,645	148,235	224	6,123	2	140	26	480	42	1,115
Clark	1,939	64,898	127	8,063			7	105		3,500
Clay	1,596	19,698	130	7,430			8	140		
Clinton	2,416	49,374	170	5,974	11	23	76	1,543	128	24,217
Coles	2,437	63,727	162	13,293	10	215	4	360	12	1,503
Cook	1,136	56,877	1	40	13	111	37	647	47	2,935
Crawford	2,089	32,044	85	11,957	5	40	500	2	53	
Cumberland	2,601	52,308	189	7,022	5	16	16	54	32	1,927
DeKalb	3,899	117,115	7	200					12	169
DeWitt	2,464	51,040	153	2,357	1	37	12	130	47	1,652
Douglas	1,948	38,268	141	4,232	1	100	14	40	27	70
DuPage	2,791	54,227	10	25	2	85	17	210	30	1,075
Edgar	3,177	71,724	200	12,938	7	275	11	235	24	441
Edwards	1,591	13,979	121	6,845			11			
Effingham	1,440	21,697	129	4,108			20	245	25	629
Fayette	2,400	41,812	236	7,495	1	5	11	91	70	3,558
Ford	1,878	9,163	4	41					72	100
Franklin										
Fulton										
Gallatin	1,095	12,280	194	14,520	7	500	5	80	5	
Greene	1,847	37,045	83	3,973	3	80	19	45	103	3,645
Grundy	1,731	17,267								
Hamilton	2,385	50,195	348	27,655	8	63	2			10
Hancock	5,820	243,963	251	12,211	7	225	459	44,451	83	1,348
Hardin										
Henderson	1,738	62,738	1	75			4	145	3	152
Henry	4,303	63,045		25		25	7	241	8	515
Irving	4,672	41,115	29	509	9		19	79	40	4,993
Jackson	2,787	35,876	841	24,938	50	1,223	17	315	144	7,553
Jasper	1,133	13,704	177	9,372	1	9	7	255	4	150
Jefferson	3,178	49,610	399	22,287	14	302	14	690	25	4,915
Jersey										
JoDavies	2,016	39,999	2	50			39	12,148	20	693
Johnson	1,295	16,190	592	33,436	1	20			4	227
Kane	2,785	71,967	2				1		5	300
Kankakee	2,238	51,999	6	15			31	810	18	1,445
Kendall	3,025	44,774	65				6	60	8	25
Knox	4,240	124,836	10	403		5	30	370	74	3,638
Lake	2,903	29,564	2	81		3	3	493	10	240
LaSalle	6,767	78,816	3	122	3	30	50	7,962	87	9,245
Lawrence	1,802	38,688	238	13,365	5	81	6	10	2	40
Lee										
Livingston	4,708	33,799	21	89			238	608	23	1,553
Logan	2,642	120,704	84	6,933	4	72	10	623	42	2,729
Macon	3,244	79,680	74	3,267	2	30	29	1,525	39	1,443
Macoupin	5,593	138,123	119	5,724	5	74	22	743	35	1,253
Madison	5,139	87,361	105	5,018	10	634	133	2,587	224	10,400
Marion	4,456	80,525	326	17,018			20	269	21	3,402
Marshall										
Mass										
Massac	830	15,337	165	15,725	2				12	74
McDonough										
McHenry										
McLean	6,923	142,291	89	2,703	4	46	50	4,994	79	3,481
Menard	1,499	60,157	36	2,289	1	132	8	20	17	319
Mercer	3,056	61,539	7	7	1	80	18	140	11	130
Monroe	1,394	18,018	22	561			115	3,194		
Montgomery	4,710	95,102	236	8,773			14	419	7	936

Agricultural Statistics, 1878—Continued.

Counties	APPLE ORCHARD		PEACH ORCHARD.		PEAR ORCHARD.		VINEYARDS.		FRUITS AND BERRIES, not included in Orchards.	
	Acres.....	Bushels produced.	Acres.....	Bushels produced.	Acres.....	Bushels produced.	Acres.....	Bushels produced.	Acres.....	Value of crop produced.
Morgan.....										
Moultrie.....	1 594	20,763	152	7,985	1	672	11	19		\$30
Ogle.....	2 876	66 589					15	1,454	2	1,132
Peoria.....	2 555	82,438	7	81		35	73	6,470		975
Perry.....	1 042	9,880	130	2,888	1		2	20	1	21
Platt.....	2 182	27,076	44	2,403	4	45	12	70	14	691
Pike.....	4 290	60,847	49	1,085	1	10	71	958	50	734
Pope.....	1 392	8,427	987	47,433	2		8	335		
Pulaski.....	900		300		241					
Putnam.....	1 160	16 592	3	85			1	420		
Randolph.....	1 351	21,377	176	8,003	2	41	27	1,829	2	85
Richland.....	2 707	77,689	101	5,632	4	18	16	512		245
Rock Island..	2 899	47,878	8	55	2	40	74	1,994	51	3,797
Saline.....	1 034	8 806	121	8,810	2	15	17	555		
Sangamon.....	4 395	142,397	427	8,990	3	190	24	1,163	38	2,705
Schuyler....	2 149	60 859	64	3,162	6		5	60	27	702
Scott.....	937	23,474	157	11,438	1		4	935	11	822
Shelby.....	3 657	57,126	168	6,058	2	104	47	2,537	20	365
Stark.....	1 321	32,310	7	135	1	25	1	230	21	160
St. Clair.....	3 612	58,246	71	1,727	7	557	123	6,670	11	1,310
Stephenson...	2 495	26,545			1	8	3	158	8	79 6
Tazewell.....	3 610	134 674	24	1,985	5	31	37	3,484	61	2,904
Union.....	2 928	29,988	847	34,648	335	5,656			1,063	49,102
Vermilion.....	3 464	79,097	89	3,787	3	158	7		25	8,743
Wabash.....	1 308	18,808	8	490		2	5	400		
Warren.....	2 498	96,835	4	31	3	10	2,721	294	19	426
Washington...	2 123	27,054		40			4	370	14	1,707
Wayne.....	3 017	34,966	393	31,641	2	155	1	185	2	178
White.....	1 723	18,849	245	12,018	1	20	1	155	6	80
Whiteside.....	3 820	94,913	7	277	1	210	4	2,060	33	338
Will.....	5 648	105,878	6	59			7	3,580	92	1,510
Williamson....	1 985	50,387	345	30,659	3	210			2	200
Winnebago....	2 504	61,144	5	70	1	30			29	950
Woodford.....	2,838	64,177	5	160			71	6,388	4	315
Totals....	244,547	4,940,871	13,299	607,292	834	13,510	5,178	142,964	3,559	\$197,581

Agricultural Statistics, 1878—Continued.

Counties.	TIMOTHY SEED.	CLOVER SEED.	HUNGAR- IAN AND MILLET.	COTTON SEED.	FLAX SEED.	GRAPES.
	Bushels produced.	Bushels produced.	Bushels produced.	Bushels produced.	Bushels produced.	Pounds produced.
Adams.....	456	1,030				52,280
Alexander.....						
Bond.....			2			430
Boone.....	1,182	2,522			20,203	31,649
Brown.....	125	1,888				
Bureau.....						4,000
Calhoun.....						6,690
Carroll.....	1,218	4,132			8,281	500
Cass.....	9					16,847
Champaign.....	4,045	8	308		43,813	10,680
Christian.....	2,044				8,711	18,852
Clark.....	855	894	92		155	8,602
Clay.....	2,226	4			10,891	3,725
Clinton.....	52	31			200	6,617
Coles.....	571	129	89			23,525
Cook.....	758		1,039		103,265	150
Crawford.....	1,338	162	25			1,470
Cumberland.....	429	27	35		574	1,005
DeKalb.....	24,650	3,432	211		67,382	40,550
DeWitt.....	500		8		90	12,887
Douglas.....	2,391	219	142		183	17,888
DuPage.....	2,071	477	195		46,204	8,425
Edgar.....	2,613	198	102			119
Edwards.....	905	681			1	255
Effingham.....	191	4			795	4,820
Fayette.....	241	277	43		226	4,136
Ford.....	6,999	81	611		138,945	
Franklin.....						
Fulton.....		351				7,320
Gallatin.....		915				38
Greene.....	25	1,423	1,339		5,527	372,201
Grundy.....	12,761					12,100
Hamilton.....	48					17,255
Hancock.....	201	201	1,012			101,424
Hardin.....						2,495
Henderson.....	224					932
Henry.....	1,026	754	49		1,783	9,100
Iroquois.....	6,758	13	6,196			2,650
Jackson.....	17	388				6,610
Jasper.....	627	10	37			5,805
Jefferson.....	356					28,890
Jersey.....						51,455
Jo Daviess.....	1,320	1,404	7			22,600
Johnson.....		507				52,097
Kane.....	6,158	427	308		20	4,805
Kankakee.....	7,910	1,652	1,775	3,844		
Kendall.....	15,643	1,229	186			64,118
Knox.....	1,879	180				475
Lake.....	1,627	1,577	198			13,251
LaSalle.....	35,135	1,206	496			49
Lawrence.....	235	1,233				15
Lee.....						
Livingston.....	21,378	150	3,713			3,268
Logan.....	197					
Macon.....	687	240	45			
Macoupin.....	2,100	864				
Madison.....	55					
Marion.....	11,788					
Marshall.....						
Mason.....						
Massac.....						
McDonough.....						
McHenry.....						
McLean.....	5,182	1,612	668			
Menard.....	187				15,470	75,681
Mercer.....	1,666	60	30			200
Monroe.....	9	534				25,920
Montgomery.....	478	1	60			2,895
Morgan.....					1,266	6,370
Moultrie.....	636	26			2,183	4,300

Agricultural Statistics, 1878—Continued.

Counties.	TIMOTHY SEED.	CLOVER SEED.	HUNGAR- IAN AND MILLET.	COTTON SEED.	FLAX SEED.	GRAPES.
	Bushels produced.	Bushels produced.	Bushels produced.	Bushels produced.	Bushels produced.	Pounds produced.
Ogle	10,899	12,014	1,185		8,079	50,597
Peoria	1,518	889				109,218
Perry	113	29				200
Platt	1,285	4,621	21	1,080	25,081	1,574
Pike	285	1,827	33			48,300
Pope	7	10			1	200
Pulaski		2,000		15		3,000
Putnam	310		17			5,850
Randolph	3	710				8,535
Richland	3,807	576			2,267	18,360
Rock Island	101	47				40,400
Saline						50
Sangamon	2,437	327			160	55,865
Schuyler	1,115	2,449	182			8,815
Scott	12					34,460
Shelby	323	29	2		400	2,770
Stark	320	764	158			1,260
St Clair	3	50				38,922
Stephenson	618	3,988	318		17,124	4,015
Tazewell	802	1,675	115			21,320
Union	194	126	24			5,000
Vermilion	610	134	519		41,152	15,633
Wabash	124	1,487			95	
Warren	1,061	118				15,250
Washington	15		16		237	680
Wayne	28,493	73			894	2,733
White	40	1,415	637			100
Whiteside	2,450	2,235	55			24,725
Will	5,403	1,991	4,459		16,203	6,295
Williamson		591			15	75
Winnebago	290	2,205			100	404
Woodford	5,455	2,114	19			93,225
Totals	261,559	77,338	26,787	4,959	971,015	1,922,636

Agricultural Statistics, 1878—Continued.

* UNCULTIVATED ACREAGE.

Counties.	Pasture.....	Woodland.....	Uncultivated land	Area city and town-estate	Acres not includ- ed elsewhere ..	Total number of acres reported for county.....
Adams	48,011	62,375	10,862	20,850	.....	392,431
Alexander .....	.....	.....	.....	.....	.....	.....
Bond .....	.....	21,760	8,285	630	2,487	169,830
Bone	43,536	47,042	20,890	744	32,006	189,938
Brown	20,382	.....	.....	.....	.....	.....
Bureau	2,513	58,376	7,934	.....	.....	103,970
Calhoun	55,100	23,438	19,377	1,753	.....	244,973
Carroll	19,615	30,441	8,020	.....	.....	.....
Cass	78,059	9,685	48,822	2,623	176,872	631,822
Champaign	57,932	23,221	51,424	38	78	359,846
Christian	29,568	68,120	53,079	2,170	.....	284,249
Clark	12,432	30,162	19,332	33	.....	150,061
Clay	27,849	41,804	38,691	1,222	52,017	305,381
Clinton	153,279	24,696	13,289	5,720	.....	321,639
Coles	86,908	13,723	12,444	947	.....	357,638
Cook	17,727	50,864	18,776	35	.....	176,972
Crawford	24,574	63,534	42,205	345	.....	214,749
Cumberland	113,069	17,651	11,719	2,944	.....	399,334
DeKalb	32,272	18,722	25,163	812	.....	295,685
DeWitt	51,564	11,819	22,363	2,500	68,385	262,770
Douglas	58,709	13,043	9,137	4,174	.....	208,916
DuPage	86,885	31,641	22,371	1,721	.....	313,979
Edgar	6,434	30,343	50,219	940	.....	141,525
Edwards	15,137	38,277	13,515	2,147	.....	177,507
Effingham	23,037	47,865	12,206	1,955	.....	201,363
Fayette	27,642	1,834	68,719	1,817	14,468	303,331
Ford .....	.....	.....	.....	.....	.....	.....
Franklin	2,301	130,062	11,317	2,642	.....	201,966
Fulton	54,872	42,506	13,332	.....	.....	224,731
Gallatin	60,904	6,923	11,359	6,181	.....	182,211
Greene	3,805	190,582	3,005	887	.....	268,507
Grundy	53,941	33,665	17,730	2,066	.....	298,203
Hamilton .....	.....	.....	.....	.....	.....	.....
Hancock	85,009	44,278	47,869	1,227	.....	239,537
Hardin	94,256	10,171	19,192	621	.....	419,986
Henderson	84,865	13,851	39,176	.....	.....	502,479
Henry	5,133	112,732	84,458	1,687	.....	295,202
Iroquois	10,237	50,922	26,987	104	.....	199,251
Jackson	24,292	158,001	22,610	448	.....	324,637
Jasper .....	.....	.....	.....	.....	.....	.....
Jefferson	50,861	87,636	47,047	168	9,193	277,451
Jersey	3,501	147,868	836	.....	.....	197,564
Johnson	84,176	19,988	8,641	841	.....	270,982
Kane	57,761	4,590	19,563	2,108	.....	330,690
Kankakee	49,512	13,999	3,734	1,018	.....	194,490
Kendall	19,632	30,995	36,426	4,594	.....	437,567
Knox	62,963	27,345	9,713	1,680	.....	203,602
Lake	121,822	40,175	17,734	8,150	.....	609,282
LaSalle	11,138	34,006	94,450	733	.....	222,465
Lawrence .....	.....	.....	.....	.....	.....	.....
Lee	75,359	6,064	21,998	1,366	.....	489,226
Livingston	56,091	20,388	16,148	5,086	.....	319,466
Logan	48,405	15,069	17,304	2,211	.....	287,640
Macon	77,505	99,402	33,545	2,527	.....	453,565
Macoupin	27,499	55,266	9,988	2,000	.....	326,765
Madison	28,478	63,577	20,727	1,415	.....	236,274
Marion .....	.....	.....	.....	.....	.....	.....
Marshall .....	.....	.....	.....	.....	.....	.....
Mason	1,896	30,047	1,675	.....	.....	66,733
Ma-sac .....	.....	.....	.....	.....	.....	.....
McDonough .....	.....	.....	.....	.....	.....	.....
McHenry .....	.....	.....	.....	.....	.....	.....
McLean	151,834	47,690	26,527	8,240	98,395	740,225
Menard	85,754	24,616	16,321	810	.....	172,607
Mercer	73,099	44,153	53,812	2,723	4,292	350,622
Monroe	7,708	52,748	4,771	.....	.....	147,129
Montgomery	61,668	75,401	67,997	2,966	.....	442,082

Agricultural Statistics, 1878—Continued.

UNCULTIVATED ACREAGE.

Counties.	Pastures.....	Woodland	Uncultivated land.....	Area city and town real estate	Acres not includ- ed elsewhere..	Total number of acres reported for county ...
Morgan.....						
Moultrie.....	28,640	9,310	10,501	279		145,709
Ogle.....	65,434	32,020	6,832	1,758		386,927
Peoria.....	28,756	22,461	7,133			241,943
Perry.....	4,665	33,591	137,609	870		236,032
Piatt.....	41,639	9,143	39,851	209		308,243
Pike.....	33,773	65,644	20,846	1,604		232,609
Pope.....	4,431	38,742	7,123			113,225
Pulaski.....	652		82,827	1,254		106,430
Putnam.....	16,853	23,266	18,497	432		224,192
Randolph.....	10,614	75,903	9,839	30	1,880	190,812
Richland.....	14,553	56,445	27,291	807		271,652
Rock Island.....	58,065	33,074	58,822	5,081		60,924
Saline.....	1,004	10,888	3,918			401,084
Sangamon.....	117,902	27,664	18,377	698		219,984
Schuyler.....	22,097	55,352	47,781	294		109,241
Scott.....	18,562	14,882	13,021	584		273,218
Shelby.....	44,694	39,289	19,429	708		137,295
Stark.....	31,549	6,822	300	303		236,952
St. Clair.....	11,318	37,666	7,383			276,606
Stephenson.....	48,402	21,893	12,787	1,867		320,573
Tazewell.....	38,060	45,974	17,816	8,119	22,568	126,194
Union.....	6,379	51,743	7,108	927		418,681
Vermilion.....	101,162	32,549	31,017	169		101,501
Wabash.....	5,533	39,173	5,962	24		816,834
Warren.....	66,792	24,012	15,014	18,392		183,071
Washington.....	11,041	33,422	3,265			258,934
Wayne.....	22,986	94,123	24,865	83		310,974
White.....	6,763	134,288	16,498	745		432,412
Whiteside.....	79,771	13,412	35,120	79,532		442,076
Will.....	109,450	19,609	10,569	830		243,586
Williamson.....	11,700	55,932	101,700	250		278,256
Winnebago.....	61,024	19,087	11,426	3,872		304,111
Woodford.....	41,566	31,983	32,459	3,056		
Total.....	3,800,211	3,771,015	2,300,200	254,111	481,631	24,110,373

Agricultural Statistics, 1878—Continued.

Counties.	FAT SHEEP SOLD.		SHEEP KILLED BY DOGS.		WOOL. Number pounds shorn.
	Number.	Gross Weight.	Number.	Value.	
Adams	2,630	257,447	452	\$995	48,037
Alexander					
Bond					75,688
Boone	2,489	163,723	416	1,091	19,385
Brown	1,894	222,562	243	591	
Bureau					2,714
Calhoun	273	21,105	50	25	18,057
Carroll	630	67,696	82	177	8,718
Cass	219	25,550	118	305	30,485
Champaign	1,281	123,243	249	659	31,210
Christian	936	90,439	137	417	28,305
Clark	1,263	115,920	684	1,543	24,994
Clay	1,926		329		22,625
Clanton	2,191	163,931	220	425	25,483
Coles	1,376	157,189	304	897	15,874
Cook	136	9,810	68	124	37,949
Crawford	1,202	91,352	254	676	15,332
Cumberland	824	45,401	449	654	59,380
DeKalb	1,730	160,865	408	1,151	56,484
DeWitt	2,468	246,846	273	590	16,422
Douglas	1,815	188,970	111	255	82,917
DuPage	5,091	387,584	378	1,403	51,140
Edgar	3,877		419	3,436	35,424
Edwards	854	82,595	177	298	18,497
Effingham	596	42,005	443	708	29,886
Fayette	1,023	92,619	688	1,228	5,602
Ford	121	18,250	90	180	
Franklin					
Fulton					7,896
Gallatin	626	47,625	702	853	50,782
Greene	4,500	455,944	414	1,242	8,679
Grundy	448	48,943	91	1,274	19,321
Hamilton	1,254	10,827	630	632	15,420
Hancock	1,669	117,178	213	392	
Hardin					5,685
Henderson	136	19,454	55	198	28,503
Henry	736	83,006	132	457	18,577
Itoquois	1,084	38,884	173	290	6,762
Jackson	302	27,915	274	366	27,195
Jasper	2,158	180,050	264	543	23,306
Jefferson	1,686	136,566	578	924	
Jersey					
JoDavies	1,262	127,468	405	1,065	93,896
Johnson	444	32,460	230	429	7,299
Kane	2,892	261,598	274	873	47,546
Kankakee	1,188	106,273	85	338	10,818
Kendall	1,473	143,735	302	807	40,086
Knox	3,011	316,007	320	894	43,647
Lake	8,322	698,010	314	1,205	291,283
LaSalle	2,873	293,046	823	776	60,232
Lawrence	538	57,596	201	470	22,536
Lee					
Livingston	438	47,880	98	239	17,876
Logan	884	83,073	96	363	26,204
Macon	1,059	107,341	99	255	25,523
Macoupin	3,221	365,719	637	1,422	93,511
Madison	8,043	175,448	893	884	36,813
Marion	1,575	133,891	424	8,486	37,077
Marshall					
Mason					
Massac	202	20,082	102	103	2,727
McDonough					
McHenry					
McLean	3,157	303,655	302	1,411	80,165
Menard	1,690	165,281	161	363	19,689
Mercer	877	62,562	162	490	22,545
Monroe	155	10,420	53	127	4,275
Montgomery	2,207	187,187	458	1,594	48,438
Morgan					
Moultrie	716	67,045	121	210	17,273
Ogle	1,546	164,837	129	417	39,558
Peoria	1,737	144,970	230	190	23,854

Agricultural Statistics, 1878—Continued.

Counties.	FAT SHEEP SOLD.		SHEEP KILLED BY DOGS.		WOOL.
	Number.	Gross Weight.	Number.	Value.	Number pounds shorn.
Perry	299	25,985	266	\$897	8,404
Piatt	598	63,318	92	197	12,457
Pike	1,337	98,737	858	1,755	47,683
Pope	57	30,176	270	408	11,342
Pulaski	400	1,200	100	200	2,000
Putnam	558	73,928	46	162	9,527
Randolph	1,671	149,935	462	1,242	33,198
Richland	704	67,217	282	681	21,973
Rock Island	419	43,146	56	186	9,046
Saline	9,510	124,570	343	.....	.....
Sangamon	4,654	468,974	572	1,728	88,267
Schuyler	1,011	88,502	395	866	20,113
Scott	1,737	233,684	276	1,011	34,909
Shelby	1,953	176,220	412	824	52,824
Stark	1,590	878,779	103	390	38,842
St. Clair	1,335	119,030	166	584	16,394
Stephenson	1,636	158,160	291	841	44,992
Tazewell	1,211	124,445	239	795	39,382
Union	551	43,529	696	711	7,128
Vermilion	5,608	520,863	769	2,220	93,376
Wabash	691	49,252	197	442	13,769
Warren	1,789	114,655	224	396	28,741
Washington	614	39,455	378	686	12,034
Wayne	1,947	182,294	484	716	28,710
White	810	64,923	420	829	15,975
Whiteside	733	61,755	89	303	31,892
Will	1,263	116,196	172	521	23,779
Williamson	994	94,430	385	727	16,954
Winnebago	2,298	240,421	336	931	67,633
Woodford	457	50,465	129	330	14,784
Total	144,762	12,531,597	26,047	\$69,956	2,891,007

Agricultural Statistics, 1878—Continued.

DAIRY.

Counties.	COWS.	BUTTER.	CHEESE.	CREAM.	MILK.	FAT CATTLE.	
	No. kept.	No. lbs. sold.	No. lbs. sold.	No. gals. sold.	No. gals. sold.	No. sold.	Gross Weight.
Adams	7 030	198,867	1,500	1,460	107,963	4,549	4,887,943
Alexander							
Bond							
Boone	9,024	455 112	444,503		708,433	2,432	2,012,518
Brown	2,813	47,538	100	100	3,400	2,493	2,469,958
Bureau						260	172,305
Calhoun	1,308	3,149					
Carroll	8 698	381 683	4,500	4,696	672 299	4,965	5 511,666
Cass	1,367	25,330			9 175	4,848	5 696 870
Champaign	6,132	204,777	47 330	7,595	66 810	6,915	7 462,345
Christian	4,216	116,485	8 315		20 900	7,224	8 236,326
Clark	3 376	66,369	514		1,000	2,634	2,396,229
Clay	2,506	45 838	2,000		190	869	
Crittton	3 566	76 620	710		49,390	1,268	673 728
Coles	4 173	103 619			4 780	4 788	5 364,571
Cook	22 739	493,257	154,550	100	5,019,203	2,262	1 841,629
Crawford	2 617	70 103	100		15	1 573	1 242,670
Cumberland	2 644	33 756		500		1 105	1 030,254
DeKalb	20 498	1,347 015	680,597	442	1,144,994	5,795	5 705 834
DeWitt	3 163	83 821	1,210	35	18,870	4 505	4 973,130
Douglas	2 319	43 522	50	105	5 120	5 831	7 340 415
DuPage	13 526	614,957	1,002,218		4,236,754	3 038	2 943,554
Efriet	4 251	105,302	140	200	741	13,418	
Edwards	2 130	22,228	515			482	407,820
Elkhingham	3 874	53,161	40	20	3,760	1,025	819,856
Fayette	3 079	78,154	12,985		7,896	1 389	1 117,548
Floyd	3 065	82,771			4,960	1,087	1 226,965
Franklin							
Fulton							
Gallatin	1 425	15 046		100		1 372	733,615
Greene	3 092	76,657	10,130		125	9,297	10 947,467
Grunijy	5 291	294,416	400		6,980	3,871	3 480,919
Hamilton	2 598	14 364				945	547,291
Hancock	7,604	227,991	10,506	200	27,225	1,399	9,208,636
Hardin							
Henderson	1 167	23 990			150	4 920	6 138,653
Henry	11 153	412,960	52,690	1,175	67,980	9 127	9 636,297
Iroquois	9 653	293,680	11 630	305	74,188	6 250	6 655,615
Jackson	2 157	47 567	200		2 601	1 190	615,452
Jasper	2 951	38,682	42	7		2 229	1,990,893
Jefferson	2 841	49,100	80		1,205	1,304	929,752
Jersey							
JoDavies	9 947	450,892	16,050		14,523	5,510	5 446 301
Johnson	1 364	5 461				1 034	615,575
Kane	24 049	685,172	381,070	2 890	7,246 349	5 510	5 151,092
Kankakee	7 151	351,894	212,914	1,048	106,558	4 299	4 514 821
Kendall	8 2 6	637,468	415,168		1,239,144	3 839	3 973,724
Knox	8 805	294,692	173,006	995	2,285 811	1 052	10 987,415
Lake	11 852	679,728	269,290	20	759,387	2 035	1 617,141
LaSalle	15 356	758 581	111,222	1,174	391,158	12,141	12 262 410
Lawrence	2 656	38,971	100		145	1,251	838,610
Lee							
Livingston	9 827	360,066	938		21,217	5 462	5 281,651
Logan	4 839	117,367	5,705	111	29,000	6 897	6 692,856
Macon	3 483	108 609	400		1 086	4 655	5 373,117
Macoupin	6 165	247,547	104,943	204	1,014,739	7 191	7 442,723
Madison	6 212	192 419	23 338	630	245,807	1 939	1 773,705
Marion	3 787	66,441	11,300	4	21,134	2,007	1 500,001
Marshall							
Mason							
Massac	1,120	28,405	50			347	142,775
McDonough							
McHenry							
McLean	9 128	278,072	4 030	360	66,345	14,057	17 193,695
Menard	1 809	43 900	225	15	7 300	5 961	7 134 930
Mercer	6 635	143,133	550		51,789	6,504	7 551,551
Monroe	1 947	84 827	1 149	3	1 190	253	164 820
Montgomery	5 892	163,121	95,401	183	170,027	3 897	3 127,419
Morgan							
Moultrie	2,616	59,859	325	400	413	4,109	2 367,832

Agricultural Statistics, 1878—Continued.

DAIRY.

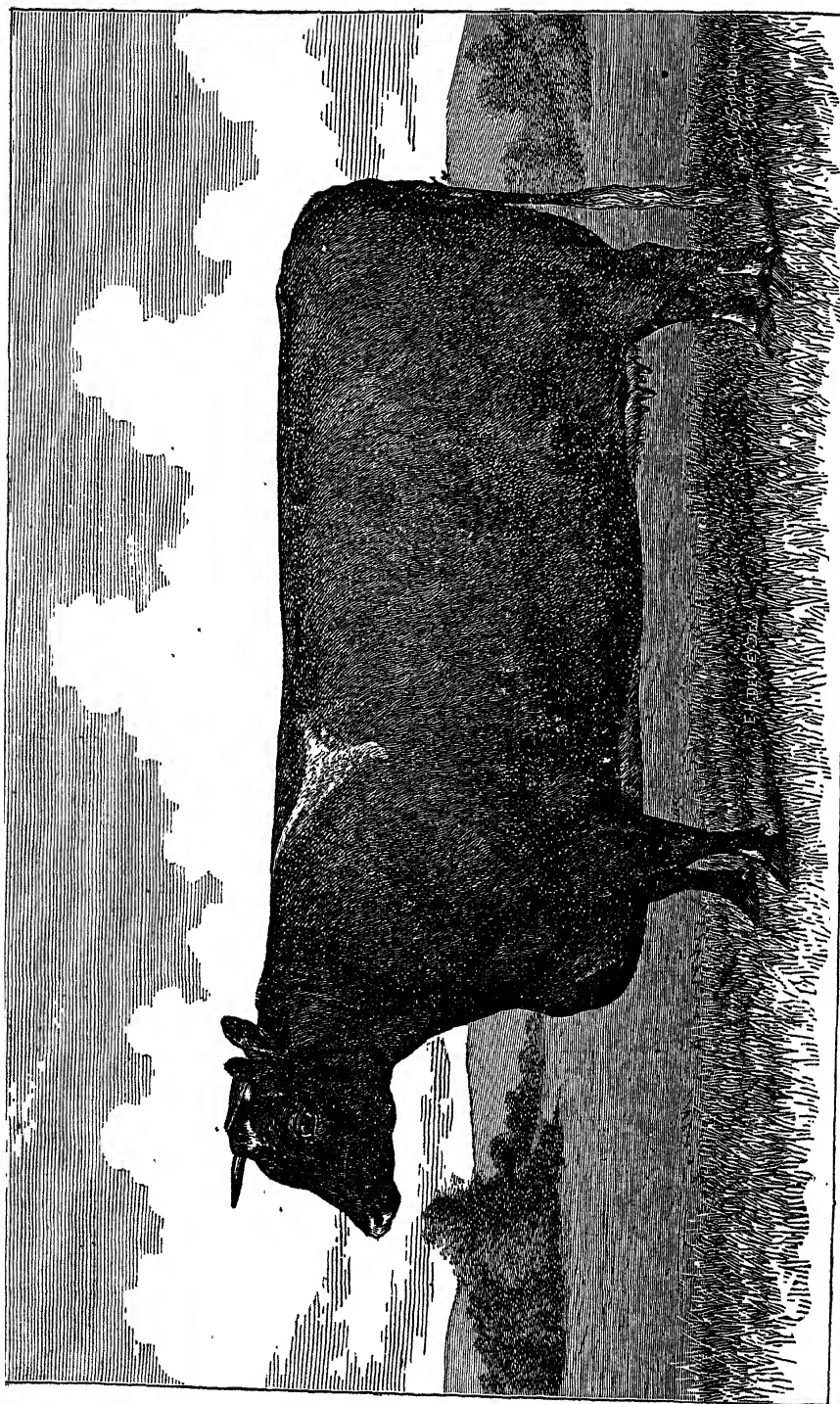
Counties.	COWS.	BUTTER.	CHEESE.	CREAM.	MILK.	FAT CATTLE.	
	No. kept.	No. lbs. sold.	No. gals. sold.	No. gals. sold.	No. gals. sold.	No. sold.	Gross Weight.
Ogle.....	12,577	689,454	37,133	1,674	291,614	6,451	7,328,055
Peoria.....	6,446	225,893	99,330	730	114,642	4,022	4,404,831
Perry.....	8,181	26,917	.....	.....	.....	644	444,770
Platt.....	2,512	62,914	.....	11	5,590	3,815	3,650,595
Pike.....	2,891	30,941	725	196	10,288	3,965	3,745,527
Pope.....	1,530	12,106	.....	.....	.....	555	326,068
Pulaski.....	2,200	.....	.....	.....	.....	3,512	39,908
Putnam.....	1,555	38,021	.....	.....	.....	6,184	2,443,740
Randolph.....	3,825	67,795	6,117	.....	1,197	1,222	717,509
Richland.....	2,505	38,198	50	.....	440	753	611,631
Rock Island...	7,049	291,079	61,900	377	180,786	5,015	5,401,888
Saline.....	1,564	11,977	.....	.....	.....	1,628	1,103,080
Sangamon.....	5,591	177,291	180,070	2,800	130,166	18,779	23,405,611
Schuyler.....	3,312	58,333	265	343	.....	2,973	3,651,417
Scott.....	1,991	51,790	.....	100	579	1,095	3,720,092
Shelby.....	5,605	116,515	8	.....	2,700	4,541	5,449,210
Stark.....	3,425	86,893	9,100	2	112,638	3,814	4,125,530
St. Clair.....	4,785	207,731	16,660	.....	44,635	1,086	977,080
Stevenson.....	10,423	774,659	41,900	1,390	138,934	3,543	2,991,428
Tazewell.....	6,511	193,697	3,306	285	215,740	4,954	4,712,146
Union.....	1,520	21,381	.....	160	7,000	757	472,125
Vermillion.....	5,155	140,735	22,700	20	31,469	10,078	12,782,770
Wabash.....	610	10,536	.....	.....	.....	790	535,045
Warren.....	6,067	165,667	.....	280	17,332	17,357	13,481,792
Washington...	3,293	43,905	150	.....	.....	627	401,301
Wayne.....	3,502	38,374	920	7	75	1,401	1,504,527
White.....	2,867	29,067	.....	.....	825	1,475	596,793
Whiteside.....	13,798	828,317	18,097	1,620	176,958	5,759	5,879,332
Will.....	18,207	609,610	282,383	23,150	2,928,761	6,714	6,746,533
Williamson.....	1,589	10,740	100	.....	.....	779	428,450
Winnebago.....	10,058	824,980	89,188	.....	232,184	3,670	3,553,342
Woodford.....	5,019	133,239	15,658	.....	785	3,226	3,866,250
Totals.....	508,753	17,997,652	5,139,914	62,707	30,567,415	357,816	365,458,112

Agricultural Statistics, 1878—Continued.

Counties.	FAT HOGS SOLD.		HOGS AND PIGS DIED OF CHOLERA.	
	Number.	Gross Weight.	Number.	Gross Weight.
Adams	45,657	12,749,226	37,970	2,651,480
Alexander				
Bond				
Boone	20,987	4,738,399	402	33,375
Brown	15,900	3,982,340	10,444	687,875
Bureau				
Calhoun	3,189	697,692	2,328	180,312
Carroll	34,212	8,292,391	25,494	2,530,208
Cass	9,468	2,378,103	15,775	1,292,240
Champaign	51,882	10,973,912	34,283	2,752,180
Christian	34,928	7,797,811	23,564	1,652,291
Clark	11,952	2,749,631	9,832	555,696
Clay	5,539		2,553	
Clinton	5,382	965,184	8,916	568,930
Coles	29,485	7,088,039	75,275	1,052,272
Cook	16,142	8,579,816	459	52,340
Crawford	9,449	1,776,412	12,371	618,550
Cumberland	8,406	1,768,550	6,411	472,360
DeKalb	68,897	16,474,948	42,422	3,442,977
DeWitt	25,899	5,858,963	23,984	1,780,384
Douglas	20,614	4,504,040	18,241	1,291,695
DuPage	19,530	5,129,677	1,315	113,315
Edgar	34,433		15,168	
Edward	8,545	203,842	3,248	208,106
Effingham	4,685	996,460	8,443	522,157
Fayette	7,697	1,525,908	13,853	888,809
Ford	19,522	4,684,924	8,687	597,575
Franklin				
Fulton				
Gallatin	3,167	663,625	5,175	819,850
Greene	25,954	5,952,634	18,055	1,381,135
Grundy	2,874	6,470,569	1,238	221,874
Hamilton	2,263	470,473	4,434	257,407
Hancock	49,842	12,177,101	24,419	2,176,672
Hardin				
Henderson	25,707	6,961,767	24,824	2,104,805
Henry	35,961	26,090,481	31,276	2,750,909
Iroquois	53,340	13,102,785	21,941	2,114,735
Jackson	1,757	584,218	4,227	218,625
Jasper	6,307	1,122,603	9,217	596,677
Jefferson	4,950	1,014,750	5,178	284,790
Jersey				
Jo Daviss	43,338	11,433,018	28,154	3,103,710
Johnson	3,032	1,321,774	2,023	163,900
Kane	32,804	9,591,106	3,677	431,559
Kankakee	34,437	8,101,828	7,574	186,795
Kendall	34,173	8,722,661	29,027	1,485,752
Knox	65,435	18,696,162	52,797	6,312,701
Lake	17,714	3,743,249	226	16,299
LaSalle	34,893	23,986,719	32,236	3,094,656
Lawrence	5,503	1,126,078	14,004	823,074
Lee				
Livingston	34,319	16,983,927	9,427	726,535
Logan	41,261	9,865,915	19,552	1,302,445
Macon	33,107	8,520,056	28,431	2,277,649
Macoupin	37,024	8,735,805	13,919	950,085
Madison	18,072	4,132,397	10,535	799,441
Mason	10,498	136,725	6,553	396,600
Marshall				
Mason				
Massac	999	174,218	1,478	78,990
McDonough				
McHenry				
McLean	83,817	21,983,778	36,679	3,124,226
Menard	18,902	4,664,548	25,496	1,514,421
Mercer	51,087	14,108,070	57,060	4,129,841
Monroe	827	200,178	1,833	134,535
Montgomery	27,327	5,400,329	11,982	1,062,176
Morgan				
Moultrie	18,023	3,483,177	13,866	926,516
Ogle	50,682	13,301,289	55,189	3,878,535
Peoria	44,001	12,552,901	38,740	2,257,825

Agricultural Statistics, 1878—Continued.

Counties.	FAT HOGS SOLD.		HOGS AND PIGS DIED OF CHOLERA.	
	Number.	Gross Weight.	Number.	Gross Weight.
Perry	1,012	219,267	3,881	234,641
Platt	21,451	4,160,282	13,255	886,930
Pike	36,570	8,676,546	80,611	1,070,901
Pope	2,342	524,546	1,615	99,799
Pulaski	3,000	12,000	1,000	.....
Putnam	14,064	4,456,515	1,662	136,230
Randolph	2,698	616,936	4,647	372,393
Richland	3,852	785,436	4,067	236,640
Rock Island	32,038	9,055,154	15,768	1,081,391
Saline	3,055	793,885	2,470	14,598
Sangamon	61,497	12,979,307	46,145	3,451,405
Schuyler	19,286	4,789,212	15,165	1,179,805
Scott	16,017	5,191,878	10,964	940,905
Shelby	23,245	5,231,125	3,840	249,600
Stark	32,680	10,296,479	16,179	1,470,863
St. Clair	4,068	878,830	5,264	520,85
Stephenson	48,805	12,679,975	27,987	2,068,708
Tazewell	33,527	9,456,632	20,569	1,467,190
Union	1,185	418,480	2,112	149,952
Vermilion	46,710	9,932,387	19,890	1,453,545
Wabash	4,871	1,183,254	3,659	233,779
Warren	49,599	14,478,965	59,544	40,891,180
Washington	1,940	399,582	10,619	692,800
Wayne	8,355	1,766,913	3,653	203,025
White	9,764	2,430,886	13,067	933,053
Whiteside	51,504	3,546,021	26,958	2,174,017
Will	43,668	11,166,489	3,525	222,990
Williamson	1,944	359,640	3,780	253,200
Winnebago	36,727	10,057,579	9,902	680,925
Woodford	37,447	9,968,031	20,733	1,523,261
Totals	2,271,493	550,955,097	1,391,422	139,853,508



SHORT HORN COW "PRISCILLA 8TH." Exhibited by J. H. PORTS & SON, Jacksonville, Ill. Awarded Sweepstakes Premium Illinois State Fair, 1879.

APPENDIX.

SIXTH ANNUAL REPORT
OF THE
ILLINOIS STATE DAIRYMEN'S ASSOCIATION,

Held at Marengo, December 9, 10, and 11, 1879.

OFFICERS OF THE ASSOCIATION FOR 1880.

PRESIDENT,

DR. JOSEPH TEFFT, Elgin.

SECRETARY,

W. J. ANDERSON, Elgin.

TREASURER,

R. M. PATRICK, Marengo.

VICE-PRESIDENTS,

C. C. BUELL, Rock Falls,

HON WM. PATTEN, Sandwich,

S. W. KINGSLEY, Barrington,

E. H. SEWARD, Marengo,

J. R. MCLEAN, Elgin,

ISRAEL BOIES, Davis Junction,

LUTHER BARTLETT, Bartlett,

PROF. F. H. HALL, Sugar Grove,

I. H. WANZER, Oneida,

CHAS BOONE, Winnebago,

JOHN SMALLWOOD, Freeport,

GEN. L. B. PARSONS, Flora,

W. H. STEWART, Woodstock,

H. W. MEAD, Hebron.

N. ELORED, Gilman.

MEMBERS

OF THE

ILLINOIS STATE DAIRYMEN'S ASSOCIATION

FOR 1880.

R. M. Patrick.....	Marengo
E. P. Vail.....	"
S. K. Bartholomew.....	"
Allen Sisson.....	"
P. Pringle.....	"
W. J. McDowell.....	"
J. Bruce.....	"
W. W. Bingham.....	"
N. Brotzman.....	"
T. H. St. John.....	"
C. L. Carpenter	"
Calvin Spencer.....	"
Timothy Loomis.....	"
John T. Nills.....	"
E. H. Seward.....	"
P. B. Smith.....	"
B. S. Parker.....	"
A. P. Abbott.....	"
F. W. Patrick.....	"
H. E. Patrick.....	"
F. G. Hackley.....	"
Joseph Mullis.....	"
Dr. Joseph Tefft.....	Elgin
C. C. Church.....	"
H. L. Borden.....	"
D. A. Halpin.....	"
J. R. McLean.....	"
W. A. Pratt.....	"
D. S. Hammond.....	"
T. Bishop.....	"
D. C. Seofield.....	"
M. H. Thompson.....	"
C. W. Gould.....	"
W. J. Anderson.....	"
T. W. Tefft.....	"
Jonathan Tefft.....	"
D. F. Barclay.....	"
G. P. Lord.....	"
Guy Adams.....	"
E. G. Douglas.....	"
Sylvanus Wilcox.....	"
James C. Brown.....	"
W. Burton.....	"

C. N. Nebber.....	Woodstock
T. McD. Richards.....	"
J. H. Foote.....	"
W. W. Joslyn.....	"
D. E. Wood.....	Huntley
Ahira Thompson.....	Harmony
A. J. King.....	Union
James Mills.....	"
Samuel Farr.....	"
Calvin Gilbert.....	"
B. Cady.....	Coral
J. M. Frink.....	"
Robert McAdams.....	Algonquin
G. B. Stone.....	Hebron
John Boyd.....	175 Lake Street, Chicago
B. P. & C. E. Baker.....	"
Charles Baltz.....	"
Chicago Linseed Oil Co.....	"
O. S. McAllister.....	Hampshire
L. C. Ward.....	St. Charles
J. B. T. Wheeler.....	"
John H. Bennett.....	Belvidere
S. Cohoon.....	"
Jacob Mabie.....	"
L. W. Lawrence.....	"
G. W. Sands.....	Capron
C. A. Hammond.....	Poplar Grove
A. S. Albro.....	Wayne
Luther Bartlett.....	Bartlett Station
I. H. Wanzer.....	Oneida
C. C. Buell.....	Rock Falls
Prof. Frank Hall.....	Sugar Grove
Wm. Patten.....	Sandwich
S. W. Kingsley.....	Dundee
A. C. Clark.....	Manchester, Iowa
John G. Cherry.....	Cedar Rapids, "
I. Boles.....	Davis Junction
*John Keating.....	South Elgin
E. A. Tefft.....	"
H. A. Bogardus.....	Batavia
J. H. Gage.....	Holstein

*John Keating, a well-known and highly respected member of the Association, was killed by the bursting of a wheel on a feed-cutter, while at work on his farm, near South Elgin, Illinois, December 31, 1879.

ILLINOIS STATE DAIRYMEN'S ASSOCIATION.

SIXTH ANNUAL MEETING,

HELD AT MARENGO, ILL., DECEMBER 9, 10, AND 11, 1879.

MARENGO, December 9, 1879, 3 o'clock P. M.

The convention was called to order at 3 o'clock p. m. by the president, Dr. Tefft, who occupied the chair. After stating that the convention would now be considered formally opened, the president called upon T. McD. Richards, president of the Kishwaukee Farmers' Club, who delivered the following address of welcome:

MR. T. MCD. RICHARDS' ADDRESS.

Mr. President, and Members of the Illinois Dairymen's Association, Ladies and Gentlemen:

In behalf of the Kishwaukee Farmers' Club, the citizens of Marengo and the dairymen of McHenry county, I bid you welcome on this annual reunion of yours. Marengo and vicinity open their homes and hearts to make your stay pleasant, and we all hope to profit from your essays and mutual discussions. This is a region deservedly noted, at home and abroad, for its excellent butter and poor cheese. I presume, however, skim cheese will continue to be made so long as factory patrons and manufacturers can both make money by so doing. Class me as one of a large number who will not eat cheese thoroughly skimmed. "If this be treason, make the most of it."

McHenry county is one of the pioneers in the manufacture of good cheese and "Gilt Edged" butter. Bartholomew, Stewart Brothers, and a few others in this county and Kane, made cheese, long years ago, that superceded the noted "Western Reserve" and New York cheese. Mr Israel Boies (a name honored by dairymen everywhere) may justly be considered as the pioneer in the manufacture of an extra quality of butter in this vicinity, where now so much is manufactured, and is so widely appreciated.

Dairymen of Illinois, your executive committee have outlined an extensive field for discussion on this occasion. Very few dairy topics have as yet received solutions that command universal assent. The field is wide and still open for both argument and experiment. In the same neighborhood several methods are considered best for feeding dairy cows. The causes and prevention of abortion, a very serious drawback to dairymen, remain unknown. The best methods of setting milk, still in dispute; the best breeds of dairy stock a subject of difference, and so on. Above all these topics, so useful and necessary to be discussed, let us not forget to study to so manage this industry that its most noted product shall be a race of men and women noted for intelligence and worthy manhood and womanhood. Illinois is a great state—only in its infancy of development. I am proud of her past progress, and hopeful for a glorious future. I feel quite sure the dairymen of Illinois will bring no dishonor to its fame. One word more, and I give way to your regular proceedings. Dr J. Woodworth, one of the members of the Kishwaukee Farmers' Club, who was also a member of your association, and a worthy patron of both and I may justly add, a man of science and a practical man as well, convenes with us no more on earth. I am sure we all duly appreciate his energy and suggestions in the cause of dairy improvements, and offer in this public manner our grateful tribute of respect to his memory.

In the absence of Judge Wilcox, of Elgin, who was to have responded to the address of welcome, the president called on Mr. Charles Baltz, of Chicago, who spoke as follows:

MR. BALTZ'S RESPONSE.

Mr. President, and Ladies and Gentlemen of Marengo:

Allow me, in behalf of the dairymen here assembled, to thank you for the very kind welcome just tendered us. We have left our places of business, our shops and our farms, to come here and discuss with you questions of mutual interest in this our annual convention. And I hope that our coming here will not be in vain; that this convention will be a grand success, as its predecessors have been; that the discussion of these various questions pertaining to the dairy interests of our state, will result beneficially to each of us.

On my way out here from Chicago to-day, riding through the country lying between here and that city, I was strongly impressed with the thought that if this section of the country was properly developed it might yet be the greatest dairy country of the world.

I hope each one of us will do his best to make this an interesting and beneficial gathering. We can do so if we try. I had little thought of being called upon to respond to Mr. McD Richards' address of welcome, when I came in, consequently I hope you will overlook any errors I may have made in my few rambling remarks.

The president, Dr. Tefft, then read the following address:

DR. TEFFT'S ADDRESS.

Fellow Citizens, Ladies, Gentlemen and Dairymen of Illinois:

In accordance with a general custom which was early adopted and has been carried out from year to year, at our annual meetings, it devolves upon me at this, the sixth anniversary of the Illinois Dairymen's Association, to present to you a partial resume of our operations during the past year. The manner and purpose of our organization, the many advantages and happy influences arising from and extended by this and similar associations, and the progress made in the different departments of dairying have been so frequently and graphically presented and discussed by others, at former meetings, that any attempt on my part to engage in the same could but be extremely irksome to you.

The year just passed has been one replete with fluctuations in the market price of dairy products. Butter and cheese have not only been very low in our markets, but have been unprecedentedly low in the European markets. We thought we had good reason for believing this would be the case in the early part of the present season, when we saw the great amount of poor butter and cheese in the commission houses, in cold storage, and piled upon the wharfs in the city of New York, last fall. To clear this market we expected much, yea, most, of this cheese would have to be dumped into the Atlantic ocean, to feed the dolphin and sea serpent. But, luckily, some of it was shipped to England, where it is said to have been used to feed swine and where it sold for nearly or quite enough to pay transportation.

We have simply invited your attention to the above for the purpose of showing in a measure the cause of the depression in the markets in the fore part of the present season. In our judgment this was largely due to our holding and placing too much poor cheese in the hands of the commission merchants during the warm weather of last year.

This season the dairymen have taken a different course, and we have no flooded markets this fall, although the production of cheese has been quite equal, if not in excess of that of last year in our country. Had our cheese of last season been in quality such as to bear transportation to South America, we venture to say it could all have been sold at fair, remunerative prices, along as it was ready for market. Our exportation of butter to that climate is already very large, why should it not be so with our cheese? We answer—Simply because we do not take care to make a cheese to suit that market. If we desire to sell our dairy products we must cater to the wishes of the consumers, to a certain extent, at least.

The consumption of this article of food for man has largely diminished in our own country within the last two or three years; and why so? Simply because but very little good cheese is to be found in the market places.

It would seem that the home market, which should be the best of all markets, is largely if not wholly ignored by our dairymen at the present time.

It was claimed in 1876-7 that the consumption of cheese in this country was fully four pounds per capita. Were that so for 1878-9, our 47,000,000 people would require about 188,000,000 pounds of cheese for home consumption alone. But how is it now? We estimate a falling off of about twenty-five per cent. in the home consumption, reducing the amount required from 188,000,000 to 141,000,000 pounds and leaving a surplus on our hands of about 47,000,000 pounds. Now this is an item in marketing that nobody but the dairymen of this country has any power to remedy. The American people too well appreciate the nutritive qualities of good cheese, when taken into the human system, to discard its use, if such cheese can be readily obtained.

Last winter a bill was drafted and presented to our legislature, which passed the senate and came near passing the house, to recognize the Illinois State Dairymen's Association as a state institution, with power to establish and maintain an experimental dairy station somewhere in the state. One of the objects of such a station would be to examine, and recommend the raising, the best and most profitable breeds of cows for the dairy of Illinois. The United States census of 1870 gives Illinois 640,321 cows. It is now computed that the state has at the present time between 800,000 and 1,000,000. The estimated average life of a cow in the dairy is about six years. This holding true, it will call for the annual rearing of about 150,000 to fill the vacant places of valueless cows in the

State of Illinois alone. This being correct, it behooves us as citizens, and especially as dairymen of Illinois, to look well to this matter of breeds for the dairy. Prof. Johnson tells us of a breed of cows that required nine pounds of hay to produce one quart of milk, and of another breed which required only five pounds. Now if this be true (and we have but little doubt of it from our own observation), would any gentleman within the sound of my voice hesitate for a moment, all other things being equal, which breed to select his cows for the dairy from? This is only one item of the use of such a station; although a very important one, perhaps not the most essential one to the dairyman. The fact that our creamery butter when first made is very fine and of excellent flavor, with an aroma not to be excelled by that of any other country's make on the face of the globe—although so nice when first made, it soon begins to lose its rich aroma and fine flavor, and more quickly becomes stale than the best dairy butter. This requires the most careful examination to find where the trouble lies, that it may be corrected. It has been estimated that the United States in 1873 produced 653,000,000 pounds of butter, and Illinois is credited with one-fourteenth of this amount, which would give her 46,642,857 pounds. Now if by any means we can increase the keeping qualities of our butter, so as to realize one cent advance on the price per pound, it would place in the pockets of the dairymen of Illinois, per annum, the snug little sum of \$466,428.57. What shall we say of cheese?

It is a well-settled fact that our cheese is not as compact but much more porous than English Cheddar, and does not hold its flavor as well and long as the English makes. It is also a demonstrated fact that our cheese contains more of the sugar of milk than their's and perhaps to this may be attributed the trouble. Some are disposed to charge our defect to climatic influences. It is possible and very probable we shall never know the actual cause of the trouble with either butter or cheese until some one makes a careful investigation of the matter, which is not likely to be done under our present dairy system. Therefore the necessity of a dairy station. Much more might be said on this subject, but time and space will not allow us to dwell.

The time was when we were taught that dairying must be confined to a strip of land from east to west a few hundred miles in width. This was and is a mistaken idea. Where good grass will readily grow, dairying may succeed, for the ingenuity of man may supply the other necessary articles. The dairy interest in this country west of the great lakes is being rapidly developed. Look at Wisconsin, with her annual production of millions of pounds of fine cheese, and Iowa, with rapid strides in the dairy business; while Minnesota, Nebraska, Missouri, Kansas and other western states are beginning to throw their mite on the wheel of fortune. While the foregoing and other states not mentioned may manufacture large amounts of butter and cheese and throw their products on the market, they are not largely your competitors only so far as our own country is concerned. We must look to Europe for the larger part of the competition which we are likely to meet. France alone exports to England more value in butter than the entire United States does in both butter and cheese. Denmark is also exporting a large amount of fine butter to England, and so, also is Sweden.

We saw Swedish butter (if our memory serves us) at the New York fair, put up in something like a wash-tub and covered with two thicknesses of coarse cloth, which had been exhibited at a fair in Europe and then sent across the Atlantic for exhibition at the fair in New York. This butter smelled and tasted rather old on top, but was solid and sweet further down in the package.

This is the kind of butter that you have to compete with in the European markets, butter that is so made that it will cross the Atlantic ocean in a wash-tub and hold its fine flavor. England imports both butter and cheese from us to export to other countries. Now why should we sit upon our haunches with folded arms and allow England or any other country to import for the purpose of exporting our goods? Why not open our eyes to the situation and export direct to those countries, and save the commission through English hands?

The Hon. W. G. Ladue, commissioner of agriculture, Washington, D. C., informs us in his report for 1878, page 287, that fully three-fourths of our export of butter and cheese is to Great Britain. The balance is to British America and the West Indies. On further examination of said report, we find on page 292 a much fuller statement, giving the names of countries where we have exported butter and cheese, with the amount to each country. We have copied this for the purpose of correcting an error which has crept into some of our conventions in this state, as well as other states. We allude to dairy, as compared with other statistical reports. We here give a few of the exports for 1878:

Country where exported to.	BUTTER.		Condensed milk—value	CHEESE.	
	Pounds.	Value.		Pounds.	Value.
United Kingdom.....	14,342,758	\$2,650,570	\$34,135	120,929,600	\$13,759,385
France.....	27,288	3,138	.....	3,400	264
Germany.....	2,854,128	434,595	132	47,478	5,986
Belgium and Netherlands.....	19,852	4,872	.....	4,872	492
Other European countries.....	5,807	753	.....	497	86
British America.....	1,153,924	208,756	3,488	1,651,726	180,368
West Indies.....	2,471,113	413,601	18,180	716,738	94,004
Mexico, Central and South America.....	583,791	126,202	9,957	307,884	40,120
Other countries.....	312,838	74,299	10,455	121,565	22,724
Australia.....	.....	.....	21,790	.....	.....
Japan.....	.....	.....	21,250	.....	.....
China.....	.....	.....	8,897	.....	.....
Total....	21,837,117	\$3,931,822	\$128,284	123,788,736	\$14,103,529

The amount of cereals exported in 1878:

Wheat	72,404,961 bushels	\$96,872,016
Wheat flour.....	3,947,338 barrels	25,095,721
Bread etc.....	14,392,231 pounds	730,317
Barley.....	3,921,501 bushels	2,565,736
Corn	35,461,098 bushels	48,030,358
Corn meal.....	432,753 barrels	1,336,187
Oats	3,715,479 bushels	1,277,920
Rye	4,207,759 bushels	3,051,739
Rye flour.....	6,962 barrels	30,775
Other grains		1,077,438
" " prepared		1,709,639
Rice.....	631,105 pounds	33,953
Total value.....		\$181,811,794

The amount of cotton exported in 1878:

Cotton, raw material	3,391,795 bales, or 1,607,533,511 pound.	\$180,031,484
" manufactured.....		11,438,660
Total amount.....		\$191,470,144

We have made below an estimate of the milk used in the United States in 1878 for culinary purposes, on a basis of a population of 47,000,000 people, divided by five, giving 9,400,000 families. Now if we give each one of these families of five persons one pint of milk per day it will call for 1,175,000 gallons per day for the United States or 428,875,000 gallons for the year. This, at ten cents per gallon, would come to \$42,837,500.

Amount consumed as above.....		\$42,837,500 00
Cheese	312,543,923 pounds @ 10c.	31,254,392 30
Butter	653,000,000 pounds @ 20c.	130,600,000 00
Condensed milk.....	3,600,000 gallons @ 10c.	360,000 00
Total amount of milk product in 1878.....		\$205,101,822 30

RECAPITULATION.

The value of wheat, flour and bread exported.....	\$122,698,054	
Wheat consumed at home, 1 bushel per capita, at \$1 per bush.	47,000,000	\$169,698,054 00
We estimate the dairy product to exceed the wheat by.....		\$35,403,838 30
(The dairy product of the country exceeds the entire exportation of all cereals.)		
The exported cotton, manufactured and raw material, amounts to.....		\$191,470,144 00
The dairy product exceeds the cotton export by.....		\$13,631,748 30

In conclusion, we would most emphatically say that in our judgment the world is not overstocked with dairy products, and more than that, we very much question whether it is ever likely to be so.

Look to the southern states in our own country, and you will see they are not likely to become either good butter or cheese makers. The question is asked, Why not? We answer, Simply because they do not raise the grasses necessary to do so. The spears of grass in some portions of those states are as scarcely seen as an honest politician in the country at large.

Think you of the many millions of mouths to be supplied with one of the best foods for the human system—one that is universally received in its normal state by nearly or quite all of the mammals on the face of the earth? Cheese contains the nitrogenous and more or less of the phosphates of milk, and is better adapted to building up and sustaining the system than any other known solid food of similar cost. Butter is largely carbon; a substance necessarily called for and used by animals in sustaining the fire of life. You ask us how we know this to be a fact? We answer, By observation. Look with your mind's eye to the Esquimaux, who lives in the far northern clime, where the mercury congeals in the winter and hardly thaws during the summer; who takes the oil blubber (which is largely carbon) and drinks it with as much gusto as our toper does a glass of whisky, and with much happier results.

We believe it to be a duty that every manufacturer who is engaged in the manufacture of dairy products owes to himself, to make his goods of such quality as the market where he expects to sell demands. We see no good reason for commissioning perishable goods, like butter and cheese. If not saleable when ready for market at some reasonable price, it is far better to hold them in the factory, where they can be looked after and cured for than to send them forward to commission men, to be placed in store-houses or piled upon the wharf of any city on the face of this broad earth. After once ready for sale, they are never out of the way until in the hands of the consumer or actually consumed.

The exportation of butter from January 1, 1879, to November 27, has reached 31,705,281 pounds; the excess over last year for same time, 13,518,230 pounds. The exportation of cheese for same time is 120,365,857; a falling-off of 8,638,316 pounds, as compared with last year, as per New York price-current report of November 27, 1879.

On motion, it was then decided to take up the topics in their order according to the programme, and

TOPIC No. 4.—“Has the manufacture of skimmed cheese had anything to do with the depression in the price of dairy products?” was taken up. Charles Baltz, of Chicago, was called upon, and talked a short time upon the subject.

Charles Baltz: He was entirely unprepared, he said, to talk on the topic before the convention, though he had often been called upon to do so. Being a cheese dealer, however, he was willing to do or say anything that would make an improvement in the manufacture of skim cheese. In regard to it having any effect on the market, he thought that the market was governed mainly by the laws of supply and demand. He would not take either side of the question, but would strike a mean between the two extremes. Possibly, skim cheese, when made in the summer, may hurt the price; but if it is made properly it will always find a good market. Let it be made as it will, it will find a market. The dealer buys it because it is cheap; and the consumers buy it from the dealer because it is cheap; and these try and palm it off on their families for good cheese, until they are sick of all kinds of cheese. His idea in regard to making skim cheese was, that we should make a grade that would be beneficial to both the retailer and the consumer; then the trade would not be injured. Some skim their cheese on all sides, and then skim it in the middle. Of course, such stuff will hurt the trade; it will always do it. He thought it would be well to discuss this matter pretty thoroughly. In some sections, skim cheese can be made to advantage; in others it cannot. Those manufacturing cheese should try and keep up the grade. It should be kept up in order to increase our home trade. Make cheese that people will eat, and you will always find sale for it. He had heard people complain that they could not get cheese fit to eat from retailers.

There was another thing he wished to speak about, though it was foreign to the subject in discussion. He thought farmers should be very careful, at that time of the year, when the weather was soft, and not let their cows out on their meadows and pastures. There are always, in such weather, little green spears, that sprout up and are eaten by the cows, which lend their flavor to the cheese and butter. If the butter is not salted as it should be, they can be easily tasted. He had often detected these flavors in butter. They have a tendency to spoil both butter and cheese, and one cheese spoiled by them will do more harm to the market than many good ones will do good. He would recommend that in an open winter the cows be kept in the barn yard and not let run on the meadows.

He thought the milk-men should help the manufacturer in doing away with poor grades of cheese, by paying him a good price for his work.

In regard to boxing cheese, he would say that a cheese should not be boxed before it was cured. It stops curing as soon as boxed. There was a great deal said about salting cheese properly. Skim cheese required more salting than cream. You often find green spots in cheese—the result of poor salting. Get good salt and work it in well and you will find no trouble in preserving your cheese. Get good milk, make good cheese and put it on the market, and you will never be troubled with low prices.

R. M. Patrick: Said he would take the ground that the manufacture of skim cheese had much to do with the decrease in prices. Statistics relative to the consumption of cheese in this country and England, proved, conclusively he thought, that if we made a good quality of cheese our home consumption would be greatly increased. Our average consumption is four pounds per individual. In England the average is fourteen pounds. If we could get to where our average consumption was as great as this we would consume more than we could manufacture in this country. He believed that if we would make good cheese our home consumption would be increased 100 per cent. He would take issue with Mr. Baltz on the subject of the manufacture of cheese. A little skimming does not injure cheese; but it is impossible to make good cheese out of milk skimmed too much. It is true there is a demand for skim cheese. In the south, for instance, there is a demand for skim cheese, because the cream will not keep in a warm climate.

J. R. McLean: Thought Mr. Baltz carried the matter too far. Didn't think that herbs, such as found in our pastures, would hurt cheese at this time of the year or at any other. He had seen some very good skim cheese, and some very poor; some so poor that his family wouldn't eat it. He thought, like Mr. Patrick, that cheese a little skimmed was the best. In his opinion the greatest danger came from another quarter. We were making our cheese too hard. Some of it was so hard that it would make good car-wheels. In regard to the distinction between skim and cream cheese, he had seen his friend Baltz, on the Elgin board of trade, pass by good cream cheese and buy skim cheese right at the side of it. If this is done, how does skim cheese hurt the market? He didn't think it hurt it any. So long as the buyer can get skim cheese for much less than he can cream he will not buy the cream.

On motion of J. R. McLean, the chair appointed a committee of three, consisting of J. R. McLean, T. McD. Richards and W. Boies, to draft resolutions relative to the death of Dr. Woodworth.

On motion it was decided to adjourn when they did to 7:30 p. m.

On motion of E. H. Seward, a committee of three—R. M. Patrick, E. H. Seward and D. Wood—was appointed to act as a finance committee.

Charles Baltz, of Chicago, asked if any arrangements had been made with the railroad companies to reduce the fare for those attending the convention. On being informed that no such arrangement had been made, he remarked that if there had been any he was going to offer a resolution thanking the company.

On motion a committee, consisting of J. R. McLean and M. Switzer, was appointed to select judges to examine the butter and award the premiums. Dr. Tefft, the president, was later added to this committee.

On motion the convention then adjourned, until 7:30 p. m.

EVENING SESSION.

TUESDAY, 7:30 P. M.

Meeting was called to order at 7:30 o'clock; President Tefft in the chair. In order to accommodate R. P. McGlincey, who wished to leave the next morning,

Topic No. 11—"The doings and acts of the Elgin Board of Trade," was taken up. Upon that topic, Mr. McGlincey read the following paper:

MR. MCGLINCEY'S PAPER.

My paper on this subject must be largely composed of figures, and may therefore prove uninteresting to many; but the figures will have considerable bearing on the "doings" of the Board, and will show what has been done by it since its organization, in 1872.

At a meeting of the Northwestern Dairymen's Association, held in Elgin, in January, 1872, I heard J. R. McLean and others speak of the manner in which dairymen were robbed by commission men, to whom they consigned their cheese and butter. The drift of the speeches was about, in effect, like this: "We send our goods forward on commission, and when we receive accounts of sales they show that the cheese was either off flavor, too hard, or too soft, or they had buffed, or leaked badly; or were cracked; the weight did not holdout; they arrived just when the market was flat, and no demand for anything; and feeling that I must realize the best possible figure, I sold them, and inclose you check for the amount, less five per cent. commission." I may remark that it was stated the commission was always the same, no matter whether the goods were up or down; and it was a singular coincidence, that goods nearly always went down when sold on commission, and up when sold direct to the dealer.

Those were the days when the dairymen produced the milk, the factoryman the cheese, and the commission man made a profit from both without risking his own capital. But the organization of the Board of Trade happily changed, in a great measure, this state of affairs; still not as effectually as some of us had hoped, and still do hope for.

Such statements as those referred to could have been made by scores of men who attended that meeting, for they had felt the sting in a greater or less degree, and were, therefore, competent to serve as witnesses in the matter. But where was the remedy, and how was it to be applied? These dairymen were scattered about the country, some distance from Chicago, our then almost only market for *Western* butter and cheese, with their farms to look after, or their factories to superintend; so they could not attend personally to the selling of their products. They well knew that they were at the mercy of the commission men, and yet they had relief in their own hands, if they only knew it. There were some wise heads in that convention, and among them none more so than the late Robert Stewart, of McHenry county, a man ever ready to give his time, experience or money to aid in developing the dairy interest, or to assist in bettering the condition of his neighbors; and, although I am not positive, yet I am inclined to the opinion that he made the motion for the appointment of a committee to adopt measures for the organization of a board of trade at Elgin, then, as now, the dairy centre of the Northwest. But a board of trade,—asked one of another, until the inquiry became general,—what good will that do? They, of course, had all heard of a board of trade, for there was one in Chicago, where wheat and corn, oats and rye, barley and flour, bacon and lard, and even money, were bought and sold, but a board of trade for the sale of dairy products was then beyond their comprehension. They had heard of "puts" and "calls," "blinds and straddles," "shorts" and "longs," "profits" and "margins," and "bulls" and "bears," but just what meaning these terms would have, when applied to a butter and cheese board of trade, they could not understand; for they had been accustomed for years to doing business on an entirely different plan, and were suspicious that they might not succeed as well with the new mode as with the old one, yet, like drowning men, they were willing to catch at any thing that would afford them relief.

The motion for the appointment of a committee prevailed, and the chair appointed R. R. Stone and C. W. Gould, of Elgin, R. W. Stewart, of Hebron, and Ira Albro, of Wayne, as such committee, which was afterward enlarged by the appointment of J. R. McLean and George W. Lake. These gentlemen met and drafted a constitution and by-laws, which were adopted at a meeting held at Elgin, March 1, 1872, and at the same meeting the following officers were elected: President, Dr. Joseph Tefft; vice-president, J. R. McLean; secretary, R. R. Stone; treasurer, O. Davidson. I think at the next meeting a few samples of cheese and butter (the latter private dairy) were exhibited, and a few sales were made.

I may here go back a little in the history of the board, and state that many who favored the organization felt that it would be more ornamental than useful but the eight years of its existence have proved most conclusively that they were mistaken in their supposition. They inquired who would come to Elgin and buy their goods. By this move, if unsuccessful, they, or at least some of them, were fearful that the commission men would refuse to handle their products, and they would then be worse

off than before. To some it looked like leaping from the frying-pan into the fire. Little did they dream that in two years Chicago, Cincinnati, St. Louis, Philadelphia, Baltimore, New York, and even Liverpool, England, would send dealers to their little inland city, to buy the goods direct from the manufacturers. But they have lived to witness the frequent visits of the representatives of the leading cities of the Union to the Elgin board of trade, in search of the best butter made in the world, and the best skimmed cheese that can be found. I say the best skimmed cheese, for I have heard dealers say that some of the cheese offered for sale was skimmed on the top and bottom, and opened and skimmed in the middle; so that would make it the best skimmed.

But to return. All of the books and papers belonging to the board, containing the reports of the sales made and the proceedings of the business meetings, were destroyed by fire in January of the present year, so I am compelled to rely on memory and the columns of the Elgin Advocate, which publishes weekly a full statement of the sales and business of the board, for many of the facts and figures here given.

The first year the board was organized the sales of butter and cheese amounted to \$81,000. Small as this is, it gave great encouragement to the friends of the enterprise, for, had this been disposed of in the usual way, the factorymen would have paid the commission men \$4,050 for the privilege (?) of selling their goods. With this showing for the first year, all the factorymen who were within reach of the board became members, and aided in sustaining it. In 1873 the sales amounted to \$219,177 53; 1874, \$368,528 58; 1875, \$496,220 04; 1876, \$707,640 68; 1877, \$1,059,085 08; 1878, \$755,597 15. In the latter year there were sold 120,821 boxes of cheese, aggregating 4,897,346 pounds, and 1,113,955 pounds of butter. The falling off in sales in 1878 is due to the fact that many of the factorymen failed to report their sales. Had they been as prompt in reporting as they were in selling, the aggregate for the year would have compared favorably with that of the previous year. For the year ending with December, 1879, the sales amounted to \$539,143 07. During this period there were 98,836 boxes of cheese, aggregating 3,643,314 pounds, and 977,879 pounds of butter, reported sold. Let us recapitulate, and see what the total sales have been since 1872, the year the board was organized, to December, 1879. We find that they aggregate \$4,286,393 72. At five per cent. commission, the factorymen and dairymen, on that sum, would be out of pocket \$214,319 63. Quite a respectable sum; and all saved by the board of trade, which has been maintained during the past eight years at a cost of \$2 per member per year, a sum so trifling that none have felt it.

The question may be asked, why do not all factorymen become members of the board, and share the benefits? In reply, let me state that but few factorymen in northern Illinois are not members of the board, having long since concluded that the advantages were far too great to be neglected. Our membership is scattered from Chicago to Peacatonica, and from the Wisconsin line, on the north, to the O., B. & Q. railroad, on the south, which scope embraces very nearly all the factories in the northern part of the state. Many private creamerymen and dairymen are also members, as well as the irrepressible commission men of Chicago, St. Louis and New York; and, so far as is known, all are satisfied with the board, and believe that its organization has been for the best.

I would not be a faithful chronicler of the "doings and acts of the board," if I failed to speak of its ups and downs in life; of the latter of which, however, it has fortunately had but few. The first year of its existence was but a little more than an experiment. The following years showed that it was firmly established, and had become an institution of the land, and a refuge for all dairymen and factorymen who would seek its shelter, for its portals were ever wide open to the oppressed of both these branches of business.

In the year 1876 or 1877 a strong effort was made by several of the Chicago dealers to break down the board, but they signally failed. Dr. Tefft, the honored president, counseled the factorymen not to yield to the importunate demands to send goods on commission, but rather club together and start one of their number out as a salesman, with instructions to visit St. Louis and other cities, and sell their products there. But before the plan could be put into effect, St. Louis came to us, and we solved the problem of what to do with the cheese with little difficulty. Chicago dealers refrained from visiting the board for about three months, but, like the prodigal, they came back, even willing to be forgiven for their sins of omission. Since then they have been very peaceable, make very good members, and visit the board punctually every week. During the period referred to, while the dealers failed to visit the board, the factorymen were sorely tried, as were their pocket-books and the patience of their patrons, but *not the cheese they made*.

The organization of the board has proven beneficial in more ways than one. It has been the means of bringing the factorymen and dealers into a closer relation; through it factorymen have become acquainted with the prominent dealers in the leading cities; and, when the custom prevailed, during the earlier period of the board, of selling goods largely by sample, factorymen had opportunities of examining their neighbors' products and comparing them with their own, without being considered inquisitive or trying to steal the trade. And I would say that these comparisons have been highly beneficial; for I well remember one factoryman who complained that he could not get as much for his cheese as his neighbor, and he imploringly appealed to the president for advice. Nor did he appeal in vain; for the president quietly and kindly informed him that his cheese was not neat in appearance; the bandage was put on in a haphazard manner, the box looked as if it was old enough to retire from service, and to crown all, the cheese was dirty on the top and side. This factoryman was shown a few bright samples from other factories, and told to imitate them. He took the hint, and in a month could show as fine cheese as any one on the board, and he continues to do so to this day. He obtained better prices, and not infrequently sold his goods from a half cent to a cent higher than any other. It has been beneficial to those dairymen who make their milk into butter at home, by enabling them to obtain better prices for their goods than they could possibly have done had not the board been organized. The establishment of the board has given manufacturers a market at home, and at as favorable prices as they could obtain elsewhere. It, in a measure, establishes the price of dairy products for all the country west of the Mississippi, and frequently New York quotations are not made until they get the returns from Elgin.

It seems to me that every producer of milk who lives within a convenient distance of Elgin should become a member of the board, and then they should attend its weekly meetings, and moreover I believe it would be to their interest if they would require the factory men who make up their milk to sell their products on the board, instead of commissioning them, as has too often become the case of late.

Perhaps the uninitiated may wonder what is meant by the "irregular sales" which they see reported from week to week, and which almost invariably outnumber the "regular sales." Well, these are the sales which have been made on commission, and are reported when the returns are made to the factorymen.

After the loss of our books, papers, etc., in January of the present year, the board organized under the state law, obtaining a charter, and became an incorporated body. We have by-laws and rules governing the members, and when one feels that he has been wronged he can appeal to the powers that be, and justice will be meted out to those who violate the law, if they can be detected. Since the organization of the board, there have been but three or four trials, for violation of the laws or contracts, thus showing that we are quite a law-abiding set. This year we have a membership of one hundred and thirty-six which is considerably more than we ever had before, but we do not want it to stop here, but want all dairymen, all factorymen, and all dealers to join us, and, by so doing, aid in keeping Western, and especially Illinois products, in the first rank of the leading markets where they are sold.

Factorymen who deal on the board have opportunities of becoming posted as to the state of the markets in all the leading cities, save Chicago, which, however, is so remote from us that the quotations might become stale before they reach us, hence we do not post prices on our bulletin board from that town. We also receive a regular telegram every Tuesday from New York city, giving us the state of the market there for the previous day. Thus the board endeavors to inform the members of the state of trade in the different cities, but once in awhile factorymen become independent of these sources of information, and some "fly" dealer picks them up, and buys their product at figures below the market price. Being bitten once, they afterward try to steer clear of such breakers.

The meetings, as a rule, are quiet and orderly, and a stranger, unacquainted with our way of doing business, would imagine that we never get up a boom in butter and cheese; but it is said that still water runs deep; and the days we have the heaviest sales we have the least noise; in fact, when there is business on the board, there is no time for noise or idle talk.

It would require too much time to give the *personal* of some of the more prominent members of the board, although I believe it would prove highly interesting to many, and perhaps at a future meeting I may give a pen picture of the bulls and bears of the Elgin board of trade, and thus complete the "acts and doings" of that now famous institution.

In conclusion, let me call your attention to a tabular statement of the sales, by months, during the year 1879, together with the average price of butter and cheese; the highest, and the lowest price of each. To some these figures will be an important study, and, I believe, will be of interest to all:

Months.	CHEESE.		Average price.	BUTTER.		Total sales
	Boxes.	Pounds.		Pounds.	Average price.	
January.....	854	29,775	5 1/4	35,758	30 1/4	\$12,238 20
February.....	640	22,400	4 7/8	16,608	26	6,165 66
March.....	1,300	47,600	5 3/8	31,870	26	10,111 39
April.....	1,835	67,350	5 3/8	18,211	22 1/4	8,096 49
May.....	5,660	214,348	5 1/4	51,325	16 3/4	20,122 71
June.....	8,880	324,525	5 1/2	70,285	16	29,081 24
July.....	5,825	206,475	4 3/4	48,022	15 1/4	27,452 54
August.....	14,694	506,391	4 3/4	156,053	17 1/4	50,133 50
September.....	13,121	462,704	8	196,348	22	73,474 16
October.....	9,892	373,785	10 3/4	88,362	28	68,371 21
November.....	16,404	689,278	11 3/4	133,321	37	115,153 91
December.....	19,561	704,387	10 3/4	141,280	34	109,742 56
Aggregate.....	98,836	3,648,314		977,879		\$339,143 67

Lowest price for butter, 14 1/2 c.; highest, 40c. Lowest price for cheese, 3c.; highest, 12 1/2 c. [Mr. McGlinchy having kindly tabulated the sales for December, they are shown with the rest, thus giving an aggregate for the year.—SAC. D. A.]

J. K. McLean (called upon): Said that Mr. McGlinchy had so completely covered the ground there was nothing left for him to say. He would illustrate in a different way, however, that might be more easily comprehended, the amount of business done by the board of trade. There had been 1,635 car loads of cheese and 221 car loads of butter sold on the board of trade and shipped from Elgin and vicinity since the organization of the board. These figures, he thought, might be remembered more easily than the other.

The question discussed during the afternoon—No 4—was then brought up again, but no one responded to the president's invitation to speak upon it.

QUESTION No. 5—"What can be done to prevent the slaughter of dairy products during the summer months?" was next brought up.

Mr. McLean: Said there were two ways to prevent the slaughter of dairy products in summer. One was, to make a good article, that would sell quick; the other, was not to make any at all.

Several calls were then made for C. C. Buell, to which that gentleman responded as follows:

C. C. Buell: He was not interested himself only in the manufacture of butter. Had learned by dear experience that making butter to keep for higher prices was not profitable. He thought butter might be made through the summer so that it could be kept sweet, but it can't be kept so that it will be as sweet as new butter. Had tried keeping some in air-tight boxes, and had kept it sweet. Had sold this for twenty-five cents per pound, in Chicago, but it had gotten a flavor which he didn't like. He preferred trying to keep butter rather than sell it for fourteen cents per pound but he hadn't sold any the last summer for less than seventeen cents. However, he would rather make butter that would sell for eighteen cents than to make some to keep over. In regard to cheese he had had no experience. Had tried to become interested by reading some articles written by Prof. Arnold. Had received a letter from the professor describing his process, but he supposed all understood it well.

Mr. Stone: Would like to ask Mr. Buell the price of other butter when he sold his for twenty-five cents.

Mr. Buell: Twenty-seven and twenty-eight cents.

R. M. Patrick: Would make but a few remarks. Thought the subject a very important one. One year ago the experiment of cold storage was tried in Chicago and New York, and he considered it somewhat of a failure, because it had not been tried this season. The experiment of keeping cheese, as they are made now, must be a failure, or nearly so. Large amounts of cheese had been kept, however, and sold at good prices. This had also been true of butter. Thought if butter was properly made during July and August it might be stored at a good profit until fall; but it must be made in houses prepared for it. Many have done well at this, but all must not take it up. Large lots were ruined in this way in the year 1878. It is a well-known fact, though, that the article is never so good as just after being churned; the fine aroma is not preserved, and the buyers are getting so particular that if butter is two weeks old they want to get it for two cents less per pound. Cheese that is properly cured is in its best condition. Peoples' tastes have changed so much in the last few years, that old cheese is almost worthless; yet cheese can be stored so as to prevent this depreciation in summer months, but if all is stored the markets will be glutted in the fall. The best way was to market the greater part of both butter and cheese during the summer months; then a good profit could be realized during the summer.

Mr. Stone: Said he had heard how to keep cheese, and now he wanted to know how to make butter to keep. He had come to learn.

Mr. Buell: Said he would like to know how they made butter in Marengo; but in answer to question, however, would say he didn't believe butter could be made to keep, the temperature of which in making was too high—that was soft in making. If kept so cold that it was hard all the time—hard enough to work well during the whole process of making—he thought it would keep. Thought the temperature never ought to be higher than from 60° to 62°. In summer not over 60°; in winter not over 64°. Would like to hear Mr. Baltz's ideas on the subject.

Martin Switzer was then called on. Said he wasn't in the habit of making speeches and preferred to hear Mr. Buell; but if any one had any questions to ask he would be glad to answer them. His experience was, that if you heated cream over 60° or 65° you destroyed the aroma and destroyed the keeping qualities. He thought the greatest danger in making butter was when it was just coming. You may spoil it then in a few minutes. Thought Buell had set the temperature a little too high. He had churned and made butter at as high a temperature as 64° and 65°. This was in a cold room. He thought butter gathered in the churn would make better at 62° than at 64°. He had made it at a high temperature.

C. C. Buell: Had attempted to get a perfect process of churning butter, and had almost succeeded in getting it. He gathered his cream and commenced churning at 58°, and before he finished it would be up to 64°.

Mr. Switzer: Thought, as a rule, that the temperature was not lowered soon enough. He thought the time to do this was just as soon as you could detect particles of butter. He would reduce the temperature then to 60° or 62°. The addition of ice was objectionable, but not of water cooled with ice. He believed that any substance once frozen or boiled could never regain its former condition. He had made but little butter out of milk; he made it out of cream. Cream at no time should be kept over 48°; he would rather have it less. He had kept it at 72°, but didn't think it was right. Never wanted his cream over 65°, to be good.

Mr. Buell, in answer to a question asked him, said his experience was that cream should not be kept long after skimming. There was, he thought, no work so poorly done in the factories as the churning.

Mrs. Church was called upon, but she replied that she was not in the habit of making public speeches, and besides, it was a good while since she had made any butter and cheese; she would rather listen to others.

W. W. Bingham: Said it was useless to attempt to go by the thermometer, entirely, in the manufacture of butter; our observation would tell us when to churn. Thought the best quality of butter could not be made by rule. It had been said that any one can make butter and cheese, but he had found out differently. The longer you make it the less you think you know about it.

Mr. Buell: In answer to a question asked him, Mr. Buell said that he set his milk in open settlers, but was not so particular about that. Low temperature was the best, always. He kept his 64° in summer; in winter, if it kept below 60° he was satisfied.

W. W. Bingham: Said his experience in setting led him to the belief that setting in cold water in tanks, closely covered to keep out all foreign substances, was the proper way. The colder the water set in, the better the quality of the cream, and the quicker it would rise. He had tried the Cooley process but didn't like it. In this process the milk was placed in the cooler warm from the cow. Necessarily the vapor condensed on the top of the can. It was well known, he said, that cream was one of the most sensitive substances to catch odors that existed, and would of course, in the Cooley process, absorb all the animal odors arising from the milk. He said you could not always get the same results from the same experiments. By his plan of setting—the submerged plan—butter could be made that would keep, and by it cream would rise quicker and higher. He thought milk was one thing and butter another, and temperature separated them; and the lower the temperature the greater the difference. He thought we could not be governed wholly by the thermometer. He worked his butter but once. Salt is never thoroughly diffused through the particles until it is all dissolved. If he was making the amount of butter they make in factories, he would work it in a different manner. He washed his butter until the water came from it clear. He didn't know as it was any improvement to wash with brine.

Mr. Baltz: Thought butter made by using the submerged process didn't keep so well. He thought there was no rule by which the details of butter-making could be followed. You must be governed by experience. The Cooley process of raising cream he didn't think was good, because you keep everything in the can that should be allowed to go off. Butter made this way wouldn't keep. The great secret in butter-making was to take out this animal heat. He thought the best way was to set in open cans and let the animal heat pass off as it should, and then you can use your judgment about how to proceed after that. He had had butter come into his market that would keep for months, and some that wouldn't keep at all. Some that he got kept all right, and marketed all right in the fall. He wanted butter that he could ship anywhere. If butter was to sell in Europe, it must be of the best quality—made to keep. He thought we could not dwell too much on this making of butter.

Mr. Buell: Thought a wrong impression had been created about the use of the thermometer. Thought good butter could not be made without the use of the thermometer. He would stick up for the thermometer, first and last. In winter we need it to know when to start our churn; you all know how it is. He had made good butter at 85° and 90°. When he knew how the mercury stood then he was all right to go ahead. He thought it a very important aid in butter-making.

Mr. Bingham: Said he wanted to make an explanation. He didn't mean that we should do without the thermometer, but that we needed experience as well.

Mr. Buell: Had seen butter made without working, just as good as that made by working. His rule was, as soon as the cream began to slush, thus denoting that the butter had come, he put into the churn a pail of water. This helped the butter to gather quicker. As soon as the butter became fairly separated, and looked like granules of sugar, he quit churning. You spoil butter when you churn too much. Draw out in ordinary manner. He got the butter in lumps the right size, then drained the butter all it would drain. To a sixty-pound churning he then adds one pail of strong brine, turns it and then puts in another lot of brine; and usually, if it is strong enough, you can pack the butter at once. He remembered one time that he thought he hadn't salt enough in, and found the fresh aroma destroyed. He used Hanson's coloring; others were good. Used Higgins' salt, because it was more easily dissolved than Onondaga. He had used another brand. Wanted a salt that was easily dissolved. You could see by his mode of making butter that it must dissolve easily.

On motion, the convention then adjourned until nine o'clock Wednesday morning.

WEDNESDAY—MORNING SESSION.

The convention was called to order by the president at ten o'clock.

On motion, W. W. Bingham and Mr. Gilbert were added to the finance committee.

The president suggested that the finance committee, in taking the names of members, be careful to get the name and address plainly written so that there would be no mistakes. He also announced that he had in his possession a paper by I. H. Wanzer on the subject discussed the previous evening.

On motion, Mr. McGlinchy was instructed to read Wanzer's paper, which he did as follows:

I. H. WANZER'S PAPER.

Mr. President: "What shall be done to prevent the slaughter of our dairy goods in the summer months?" is a question that has been discussed from time to time, under different headings, in most of our dairymen's conventions ever since they were first organized, and I believe much good has resulted from the same. But never in the history of associated dairying has the necessity of some radical change been so forcibly impressed upon the minds of dairymen as in the past season. It has positively come to the point where we have got to do some things differently or abandon the business.

In this paper we will briefly call attention of dairymen to some reforms that it would seem easy to put into successful operation. First, we mention the oft-admitted fact that we are making too many of our goods in the summer months. This over-production can, we believe, be easily and profitably abandoned in the West. With the expensive feed and long winters of the East, they can never compete with us in the manufacture of butter and cheese in winter. And now, as the tastes of the world are for strictly fresh goods, we find in order to supply this growing demand for at least one-half of the year, we are insured a

profitable outlet for all we can make. Our past experience in winter dairying is, we think, convincing enough that the winter months are the months to make the best of our goods, thus helping to equalize the markets of the world. We believe that it is more from the force of habits inherited from the East than anything else that the West, as a whole, is clinging so close to summer milking.

Second, we mention the oft-repeated fact that we must make our goods better. Much of our summer product is made worthless through the carelessness and incompetency of butter-makers and cheese makers; and we think that, since the abandonment of buying milk at the factories, poor goods are on the increase. Manufacturers should be held strictly responsible for all goods made from milk entrusted to their care.

Our curing rooms for cheese, in the main, are greatly at fault. Most curing rooms are built by only siding up the outside and plastering the inside. These rooms resist neither heat nor cold. In two of the factories under our charge the curing rooms are built as follows: First, they are sheathed with good lumber on outside of studding; then furred out and sided; then furred out between studding on the inside and papered with good building paper; then furred out and lathed and plastered between studs; then lathed and plastered again outside of all, making four dead air spaces. In these rooms cheese will keep their flavor, if well made, from four to six weeks longer than in rooms built in the old way. In a business of 5,000 pounds of milk daily these rooms will save the extra expense of building each month, for four of the summer months.

Our butter must be made better. There are many things in the summer months at war with us in our attempts to make good keeping butter. It requires the greatest vigilance to keep our factories in condition so that our cream may raise in a sweet atmosphere; and this is made more difficult from its proximity to the cheese making room. Let us so control matters that our milk, whilst setting for cream, shall be in a clear, sweet room, and when this is done, followed by all the requisites of good butter making, we will have butter that will keep a reasonable length of time and still meet the requirements of the trade. When made, we should at once make up our minds whether we want to put it upon the market at the ruling prices or hold it for better. If to be sold, get it into market just as soon as possible. Sell at what you would consider a low figure at home, rather than put it into a hot car to go a long distance to the place of your commission man, exposed to delays and heat between cars and store—"all at your risk,"—and after being received in store not cared for in a proper manner,—for but few mortals will care for the goods of others as though they were their own. If we should think it better to hold for better prices, put it into the nearest cool, clean, dry cellar with good strong brine covering the top; preferring this to the damage incurred in transit and the expense of what, in many instances, proves to be worthless, damp, cold storage.

Then again, it seems to us that we have fallen into a system of marketing our butter and cheese which if persisted in will work ruin to this industry. Chicago is our natural distributing point, and its commission men, recognizing this fact, have taken advantage of it and entered into combinations compelling the manufactures to commission their goods; and so well are these combinations held together that we can never sell outright unless there is more to be made for them. The time was when the keeper of the cows sold his milk to the manufacturer and the manufacturer sold his goods to the dealer, but now the producer of the milk commissions his product to the manufacturer, and the manufacturer commissions the goods to Chicago dealers, and Chicago dealers commission the goods to dealers in New York, and the dealers in New York commission them to parties in Liverpool or Glasgow; and all the breakage, leakage, shrinkage, freight, cartage, and the three or four commissions come out of the producer of the milk—and no wonder small dividends follow. If we are to consign our goods let us get just as near the consumer as possible. The time has come when any man of common intelligence can open a correspondence with good men on the other side, and will find it just as easy to ascertain their financial worth as that of a Chicago or New York man; and unless we can get fair play from our men at home we can leave Chicago men out in the cold.

In conclusion, I would express a hope that the present session of the State Dairymen's Association may have its influence in favor of an increase of winter dairying, as well as for the making of better goods and a reformation in our ways of disposing of the same, thereby to encourage and foster the great industry of dairying.

QUESTION No. 6—"Will it be more profitable for the dairymen of Illinois to follow dairying exclusively for the next few years, or diversified farming?" was then taken up.

C. C. Buell read the following paper on this topic:

C. C. BUELL'S PAPER.

The apparent tendency of all industrial enterprise at the present period is toward specialties in production. It seems hardly necessary to take any time to prove this proposition, or even illustrate it. We see it in the spades we dig with, the hammers we pound with, the plows we use, the wagons we ride in, the clothes we wear, etc. The items of almost the entire list of manufactured products proceed from establishments which make specialties of some leading article or articles. So in merchandizing, and in professional pursuits as well, when we look for the causes of this, we find some of them in the increased use of improved machinery, by which the various cheap motor powers are made to take the place of skilled manual labor, thus turning out a greatly increased number of articles designed to meet human want, at greatly reduced cost, and in a style, as a rule, much better adapted to please the taste.

The cost of transportation has been made so small (as it should be with present facilities) that it matters little to the consumers whether an article is produced in Oregon or Maine. A general equalization of values has thus been produced so far as locality is concerned. The controlling elements in the problem of production have come to be,

technical skill and capital, coupled with natural facilities, such as climate, adaptation of soil, cheap power, presence of the raw material, etc. All these things are in the line of economical division of labor and are the mark of progress in civilization itself.

The question for discussion here is, do the various branches of the business of husbandry fall under the same law, and especially is the business of dairying in the immediate future and considered as to its rewards and profits, to be most advantageously pursued as a speciality, or otherwise in connection with diversified farming? I do not hesitate to take the position that the law referred to does apply with proper limitations, to the various branches of agricultural industry and to dairying in particular.

It will be noted here that the question is not whether dairy farming will be profitable the next few years. That is an entirely different and separate question. But assuming that there will be any profit at all in the business, I believe it will be greater if pursued under favorable circumstances as a speciality; and further, this special attention to it may make all the difference there is between a losing and a profitable business. The day is past when the dairy of five cows, in connection with mixed farming, can compete economically with the dairy of fifty cows, the natural facilities being the same; and the question is by no means settled that the dairy of fifty cows, operated distinct and alone, can compete economically with associated dairies of five hundred or a thousand cows, the same skill in the various details being brought to bear in both. The same principles apply here that apply to other branches of industry. The consumer of dairy products has advanced in this direction as he has in others. He demands a more finished product—a product of greater artistic skill. And his demands are inexorable. He is able to pay for it and he will have it. The manufacturer who is able to meet this want "takes first money," and is likely to reap the greatest profits.

Skill and capital are brought into use advantageously here as in other branches of industry. Capital is required to procure the facilities for producing the best product as well as a given quantity of it at the least cost. Skill is acquired by careful study and practice on the part of a capable individual, and this becomes economically possible only when operations are large and the products considerable in amount. Compare the product of milk strained into six-quart crocks or pans, set on the bottom of a cellar, churned by hand in five to fifteen pound batches, either by the housewife, milkmaid, or the proprietor himself, worked with a paddle or ladle, put into rolls of one to five pounds and neatly marked, rolled up in a napkin or piece of old cotton garment, and taken to market along with a few eggs and vegetables, perhaps—compare, I say, this product, both as to quality and cost in labor, with the product of an associated dairy enterprise, and you have the extremes of the economic view I would like to bring before you, so far as quality and cost are concerned. Now consider the relative rewards probably received, and the contrast is complete. Now every small dairy approaches more or less near the unfavorable extreme I have described, *as to the cost of the product in labor*. The quality of the product may be, and sometimes is, equal to and even superior to the product of the large dairy or the associated dairy; but this is not usually so, and is liable to be so only at the cost of greater expenditure in valuable labor. Circumstances may and sometimes do warrant this; but this is the exception and not the rule.

I have no doubt, therefore, that dairying as a speciality is far the most profitable form in which this business can be engaged in. Of course it is better to market the butter produced on any farm, over and above home wants, rather than waste it; but not much profit for labor is likely to come from this source.

The above conclusion, however, does not imply certain things, and it does imply certain other things. It does not imply that any kind of a farmer, on any kind of a farm, with any kind of cows, with any kind of management, can, by making dairying a speciality, "pay off the mortgage" and achieve success. It does not imply that the man, who thinks he knows it all to begin with and who does not master his business, will make dairying profitable. It does not imply that the farmer, with land especially adapted to grain raising and not to grass, with water scanty or poor will succeed.

It does imply that the dairyman shall have a liking for his business and shall master it in its details. He shall not be afraid to roll up his sleeves and go to work himself. He shall take the dairy papers, attend the dairy conventions, impart and receive knowledge, learn to distinguish a good and profitable cow, know the comfort of a seat on a milking stool, and not get mad if butter from the same churning don't take both first and second prizes in the same class. "The wind bloweth where it listeth," etc. He should know enough not to put colts and steers and cows in the same pasture and yards and expect a profit from the cows. He should have eyes to see that by letting a lot of hungry hogs run with his cows, in order to save the droppings, he does not give his cows a minute's rest for turning feed into milk. It implies that the dairyman has a farm which is either excellent for grass or otherwise adapted to produce both grass and grain. In the first case he may profitably, as a rule, buy more or less grain to supplement his grass, and in the latter case he would probably feed the grain he raises. It implies that the dairyman does not live either in Alaska or Florida, if I am rightly informed about the climate of these two localities. In short, it implies that there is a general and intelligent adaption of means to the end to be accomplished.

As to the future, I never considered the foresight of the person, who claimed to see far into it, established. He sometimes pretends to see a long way, but usually, like the cross-eyed girl, acts as if looking somewhere else. There undoubtedly will be *ups* and *downs*—mostly *downs*, probably, as it will appear to each one with respect to his own business. There is no more prospect of free trade in money than of free trade in general. Money will not be allowed to become in fact as practically in law a commodity as well as money, nor will it be permitted to perform the simple duty of exchange, useful for currency, but comparatively useless as a commodity merely. The banking function, so called, would be interfered with. A whole class of money *issuers* would thereby lose their occupation.

There is no probability of another war to send butter up to fifty cents per pound and more. The Boises, the Wanzers and the Elginites, are not going to sell their butter for ten cents per pound more than the rest of us can get. *They will have to ride in the omnibus.* We

doubt whether the dollar-a-pound customers are to increase, but the consumers of good butter will, and there will be more of it. The dairyman's dish will not probably be always right side up; but if he be neither fickle nor foolish, he may catch his proportion of the shower. Yes, dairying to succeed is to dairy persistently, to dairy intelligently and three hundred and sixty-five days in a year, and one day more in leap years, and to dairy as a special business.

W. W. Bingham: Said the question had been discussed in a little different light from what he had thought. He believed no business should be followed if not followed thoroughly. The question was, Is it going to be profitable if followed the next few years? He thought the experience of the past few years had taught us a lesson. The business was but in its infancy; many were classed as dairymen who were nothing but milk-producers, who did not profess to know how to make butter and cheese. These, of course, followed the co-operative plan. The profits to be derived from any business are from what you have above cost of production. He thought the dividend plan of making butter and cheese had a tendency to decrease prices. He thought if this plan was followed out it would always glut the markets, as it had in the past. This glutting had a tendency to diminish prices; it was putting the profits of the business into another's pocket. Thought in a few years this business would get down to where the dairymen would either sell their milk outright or make it up themselves, and learn to sell it out and out, and not put it into the hands of commission merchants. He thought if we would do away with this dividend system of making up our products, our profits would be increased, because of the quality made, and less of it. We could judge of the future only by the past; and he thought he could say, without being successfully contradicted, that those who have been getting rid of their milk by the dividend plan hadn't made a cent in the past few years. The dividends had been down to forty and fifty cents, which didn't pay expenses. He thought this dividend system was one which should receive the careful attention of every dairymen, and others interested in the matter. Dairying in the future would be formed upon a good, sound basis. He thought, however, that diversified farming was the best, from the fact that you were the least liable to failure, because you had two or three things to fall back on in case of an emergency.

Mr. Kingsley: Thought diversified farming was the best. Some bought their cows, and others raised them; this varied much in different localities. He thought if a man had a small farm he ought to keep to dairying exclusively. He thought, however, for the sake of the land, he ought to change. He had been a dairymen a good while.

Mr. Seward: Said the question should not pass without more talk. Diversified farming was the question which had to come, sooner or later. He was satisfied that we mowed and pastured our land too long. Manuring land would not produce the quality of grass that you could get if you broke it up. Our land seemed very well adapted to raising clover. He had seen pastures that had never been broken up and he thought from them you could get a larger crop than from older land. Foreign grasses would come in. About it being more profitable, he thought the dairymen of Illinois should follow mixed farming. He thought if every farmer would try and raise some stock, and raise more grain than he needed, he would be better off. He thought exclusive farming not so profitable. Thought farmers should raise a few calves and keep up their dairies. He thought one good breeder kept on the farm was a good thing; and unless we raised some stock like this, every little while we must go to others and buy stock, and pay big prices. He thought, too, that we should raise root crops; the larger the better. He thought farmers should raise a little of everything. You could get more out of your land this way than could those who made dairying a specialty.

Calvin Gilbert: (On being called upon)—Said he would rather let his friend McGlinchey talk; he could interest an audience better than himself. He thought the question was of much importance. Had been in the dairy business for fifteen years and he didn't know as he had gotten very rich out of it; but he believed he had done as well at that as he could at anything else—any other kind of business. He had been traveling in the west and had not seen the wealth he saw at home. Compared with the south, also, we were much better off. He wished to digress a little. His idea of the dividend plan was, that it was the right plan if run rightly; but, as all knew, the making up of milk had been in a way not at all satisfactory to our dairymen. Our milk and money had gone out and we had received so many cents per hundred. This plan had been run too loosely to give satisfaction. When he was receiving thirty-five and forty cents per hundred for his milk he thought he was throwing it away and he had made a private creamery. The factories, though, were at present paying good dividends. He had a contract for butter, made in his own dairy, for thirty cents per pound, clear, in Chicago. Thought dairying was the business if you could keep your cows up all right, though you must have your ups and downs. He knew that this skim cheese was running the trade. This part of the state, he thought, was adapted to dairying. Further south there was no water and it made it impossible to dairy well in the southern part of the state. If you were in the business, to keep at it, and you would come out all right.

In answer to a question: He made one pound of butter from twenty-five and a quarter pounds of milk. He had heard of more being made, but he would like to see it. He had been told by a dairymen in Chicago that he was making four pounds of butter from one hundred pounds of milk; He fed corn and oats and thought it was better to graze all together. He set his milk in pools in deep settlers for forty hours; in warm weather, twenty-four hours. Let it get a little sour before skimming but usually skimmed just as the milk was changing. When he started it took twenty-seven pounds of milk to make one pound of butter. He had found it took just one and three-quarters pounds more of milk in June than in October to make a pound of butter.

Mr. Bartlett: Found a little over one pound difference between summer and October milk. He had always found a good deal of difference in these two seasons, but it was probably in the feed. He let his milk stand thirty-eight or forty hours; about the same at all times of the year. Was getting at this time of the year about four and one-half pounds of butter to one hundred of milk. He had gotten from fifteen to thirty-three cents for his butter. Weighed it as soon as it came out of the churn. He shipped to Chicago.



J. H. Foote was then called upon: He set his milk in warm weather by putting in pans. He had made in October a little less than four pounds of butter to one hundred pounds of milk. In November he made one pound of butter from twenty-one of milk. He had fed bran, corn-meal and corn in the shock.

O. S. McAllister: Thought the dairy business needed experience and close attention. He thought if a man went into dairying he needed to do that exclusively. If you got to raising other things you couldn't give dairying the attention it needed to make it profitable.

On motion of Mr. Baker, a committee consisting of Dr. Tefft, R. M. Patrick and C. C. Buell was appointed to meet Governor Cullom, who was expected on the noon train. L. Bartlett was later added to this committee in place of C. C. Buell, who was unable to serve.

QUESTION No. 7—"Is it advisable for dairymen to continue in the business?"—was then taken up.

The president called on J. R. McLean, who was down on the programme for a talk on this subject.

J. R. McLean: Said the former question had so completely used this one up that there was nothing left for him to say. He would have prepared a paper on the subject had he not known that the former question would necessarily cover the ground. He remembered, in connection, the old maxim—"Everybody gives advice and few take it." He thought this question must be left to each man who was in the business. Every man knew whether he had been doing well the past year and whether it would be profitable for him to remain in the business. If a man had a factory close by, run on honest principles, it would probably be a good plan to keep at it. He had talked with quite a number of well-known dairymen on this subject and had concluded that if it was not for the recent boom dairymen in general would have had to sell their dairies to buy bread for their families; but things are better now. He was satisfied with what he was getting for milk; but if he had not had something else to fall back upon he would not have been there, nor would he have been able to raise the dollar necessary to become a member of this society. He thought, while McGilincy was reading of the immense amount of dairy products that had been sold on the board of trade, he would like to ask where the money had all gone. If we had received it, what had we to show for it? Providence and the prosperity attending business had made times a little better. God had sent dry weather the past year that we might get good prices for our products. And the president had read how our exports to Europe had increased; all of which has had a tendency to better the markets; but would we dare to depend on these next year? He would digress a little: He believed in diversified farming. His idea had been for years that a man could make it the most successful. He kept twenty cows on one hundred acres of land. Beside these he could raise a few calves and a few colts. He supposed that was called diversified farming. Kept a few turkeys and chickens and other fowls. He knew a man named Rohlston, who lived on Henry Sherman's farm, near Elgin, who sold \$1,800 worth of sweet corn the past year, and spent every cent of it in buying feed to keep his dairy of seventy-five cows. His neighbor, Larkin, had made money in the dairy business—he could make money at anything. He would advise dairymen to go slow. It had been suggested that the business would get down to a solid basis before long, but if ever the business got lower down than it had been, God help us! Some one had spoken about home consumption of dairy products. The trouble there had been that the dividends paid by the factories had been so low that the patrons couldn't get money enough to buy cheese. It wasn't all in skim cheese. It wasn't all in under-consumption. What was to be done? Go into mixed farming? He would advise again to go slow. Raise some calves, raise some pork, and if your cheese spoiled before you sold you had something to fall back upon; but to draw your own conclusions whether it was better to keep it up.

On motion of C. C. Buell the following greeting, signed by the president and secretary, was ordered sent by telegraph to the president of the International Dairy Fair, then in session in New York:

F. B. Thurber, President International Dairy Fair, N. Y.: Illinois State Dairymen's Association, now holding annual convention at Marengo, Ill., sends greeting, with best wishes for success of Second Annual Dairy Fair.

The committee appointed to draft resolutions relative to the death of Dr. Woodworth, then reported the following, which were unanimously adopted:

TRIBUTE OF RESPECT.

WHEREAS, This association learns with deep regret that the All-wise Creator and ruler of this universe has in His providence removed from our membership, since our last meeting, our esteemed co-laborer, Dr. J. Woodworth, a gentleman who, by his many good qualities of heart and mind, endeared himself to his family and friends, and to strangers as well; and one who in all his intercourse with his fellows exhibited the true spirit which should ever characterize man in all his dealings; as a dairyman he occupied a position in the front rank of his profession and was ever ready to impart information to others, believing in the injunction "Let your light shine" so as to benefit others: Therefore, be it

Resolved, That we deeply deplore the death of Dr. Woodworth, but recognizing the hand of Him "who doeth all things well," we bow in humble submission to the divine will; and, be it

Resolved, That the association extends its heartfelt sympathy to the bereaved family in this hour of their deep and bitter affliction, and consolingly points them to Him who "tempers the wind to the shorn lamb" and careth for the sparrows; and, be it

Resolved, That a copy of these resolutions, signed by the president and secretary of this association be sent to the family of the deceased, and that they be printed in the journal of proceedings.

JOHN R. McLEAN,
THOS. McD. RICHARDS.

The president announced that he had just received a telegram from Gov. Cullom, which he read as follows:

SPRINGFIELD, Ill., Dec. 10, 1879.

Dr. Joseph Tefft: I have not been able to leave home to attend your convention. Hope you will have a pleasant and profitable session. I regret that I cannot be with you to-day.
S. M. CULLOM.

QUESTION No. 7 was brought up again, but as nothing was said on the subject, it was passed, and

QUESTION No. 8—"The defects in the management of the dairy business in this state; what are they, and how can they be remedied?"—taken up. The following paper by Israel Boies, on this subject, was then read by the secretary:

I. BOIES' PAPER.

Gentlemen: I feel that I have not brains enough to do justice to this subject, and were it not that you have selected three other men to address you on this question—able men—I would think the subject would fare slim. It would be like offering skim cheese in a full-cream cheese market. But to the subject. First—a want of system, too much slipshod work, cows neglected, irregularity in feeding, irregularity in milking. I say that half of the cows that are milked in the Northwest (let a good business man make the figures) are milked at a loss; one-half the balance pay no profit; the other quarter pay, why?—because they are in the hands of men that never do business by the halves. If they keep cows, they know every month, yea, every week, whether they pay or not. Such men don't ask their cows to pay without feed, and the best kind at that. Their cows are always milked regularly; they are provided with good, warm stables, protected from all cold storms, always treated kindly; they use no dogs, but soft, kind words. There is too much guess work with farmers, generally. When you ask one man how his cows are doing, he will answer promptly: "Average twenty-five pounds per day; I get \$1.25 per hundred for my milk; I get thirty-one and one-fourth cents per day per cow—cost, twenty cents per day for keep; and at that figure my hay and grain is sold for a good price at home. I have the manure for my farm; my farm is growing better every year and my bank account stronger." This is so with but few. Three-fourths of the dairymen in the West cannot say they do as above. Take, for instance, the report of Professor Wilson, at Elgin, in 1874, of the best dairy in 38,000 cows kept in New York State. That season the best dairy produced \$92 50 worth of milk, the poorest, \$13 50. Both these men carried to the same factory and received same price for their milk. I presume, if we knew the product of the entire 38 000 cows, we would find not more than 9,000 of the 38 000 gave over \$40 worth of milk. I judge by what I know; it is not guess work. How much is lost every year by bad management in the manufacture of butter and cheese? Why do dairymen keep and milk cows and carry milk to a factory where the proprietor or manufacturer does not understand his business? Why is it that there is eight cents a pound difference in the price of creamery butter? Why is it that there is from two to four cents per pound difference in the price of full-cream cheese? Is there not five cents per pound difference now in skim cheese? Why do dairymen carry their milk to a factory that never turns out any thing but second-class goods? Is it not the fault of you, dairymen? I believe if dairymen first guaranteed to the factoryman good, pure milk, then bound the manufacturer to produce "A No 1" goods or pay the difference, and then carried this rule into effect and live up to it strictly, it would make twenty-five per cent. in favor of the dairyman. Gentlemen, it is your own fault if you don't remedy this evil. I dislike long epistles, yet a volume can be written on this subject; but I have only touched two points—the production of milk and the manufacture of the same. I have not said one quarter that might in truth be said on these two points, but enough at this time.

On motion the chair appointed a committee of five, consisting of S. W. Kingsley, J. H. McLean, C. C. Buell, L. Sheldon and W. W. Bingham, to nominate officers for the ensuing year.

On motion, the convention then adjourned to meet at 1:30 p. m.

AFTERNOON SESSION.

WEDNESDAY, December 10.

The convention was called to order by the president at 1:45, and

QUESTION No. 8 was resumed.

B. Cady: Said he would make a few suggestions. In the first place, those who were running the factories should run them in a cleanly manner. In the next place, those who brought milk to the factory should be obliged to bring it in good order. Have plenty of water at the factory and have it good. Factorymen didn't let the patrons know what they were getting for their milk. His idea was, to let the patrons know all about it. The business depended upon the patrons and the makers. There were many who didn't understand anything about the business, but would after a while. He had been to some trouble to collect figures in the matter, and had found a great difference in many cases between dividends paid by factories in this section, for same month. Wanted to know how this could be accounted for.

Ira Thompson was called upon, but said he had not come to be heard, but to learn.

T. McD. Richards: Said good butter and good cheese could not be made from unclean milk.

Mr. S. K. Bartholomew (called upon); Said he thought the ground had been pretty well covered by the previous speakers, but he would repeat, for the more our errors were brought before us the more apt we were to correct them. The main point to consider was the stock from which we got our milk. One trouble was that we kept too many cows that did not pay, that ate up the profits of the good ones. The average cow gives about 3 000 pounds of milk per annum. It should be from 5,000 to 8,000. The worth of the animal was measured by what it produced over and above what it cost to keep it. The way to get good stock was to raise it. A few years since he thought he was losing money by raising calves because he could buy them cheaper than he could raise them, and so concluded to buy; but he soon found he was paying much more for the cheap animals—they proved to be the dearer. He selected his cows from choice stock both dam and sire. He could raise good cows this way. When he had bought them he never got as good ones as he could raise. You didn't notice the expense of raising them. There was another defect—we were putting on the market goods that did not get sold. There was just one of two remedies that must be adopted for this: One-half of us must go out of the business or we must produce only half of the year. Let the Eastern people manufacture the dairy goods in summer, and we would make in winter. These were the most important of our failures. We asked the cow merchant to fill up the gaps in our cow ranks, and lost by it. Another trouble: But few of us were educated to the business. We started out here thinking we could make and sell produce as cheaply as the Eastern people, but we found to get high prices we had to make goods that would bring them. We were improving though; we had cattle better. A few years ago it was not an extraordinary thing to see hides stretched on farmer's fences; but we have got past that. The average farmer can now, without a shudder, throw to his cattle an extra peck of feed. However, one class of bad men might destroy the good efforts of many good ones. He had found out that dividing the milk in his factory, putting the milk of big producers in one place and that of small ones in another, resulted well. He found in doing this that by the other way half of his patrons were robbing the other half. The small patrons were robbing the big ones. We must bear in mind that it took good milk to make good butter, and it took good butter to find buyers.

W. Patten: Had had but little experience in butter-making. Was running a small private dairy. He had married a woman who, in her own estimation, knew how to make butter better than he did. He wanted to run the butter-making, but his wife would not let him. But he had a chance once: His wife was called away to the home of his son, last fall, by one of those unfortunate accidents which frequently occur to newly-married couples, and he tried his hand at it. He made a good batch of butter and sent it to Chicago. He didn't hear anything about it until he called at the commission house on his way to the convention, and found, as the merchant told him, that the butter kept well—very well. He didn't want his wife to know any thing about it, and told the man to bill it at thirty-five cents per pound in returns and he would make up the difference. If he had thought any of the women present would ever see his wife he would not have told of it.

Mrs. Geo. Sands: Had made butter a good while, but lately her "lord and master" had learned how, and now he knew it all. He attended the State Dairymen's Convention at Elgin for a few hours, and he knew much more than she did. He did well, however. The last month he had made one pound of butter from twenty-two pounds of milk. She had made good butter, but didn't feel competent to give any instructions.

Mr. Sands: Said his wife gave him more credit than he thought she would. She found a great deal of fault with him at home. Said he was not neat.

O. S. Cahoon: Thought the first place to start reform in this matter was in the stable, with all. He never had carried milk to factory, but thought the greatest mistake made was in not requiring more cleanliness. We should be more careful. Suppose we began at the beginning—dressing the cow right and keeping her in a good place.

J. H. Foote: Would add to Mr. Cahoon's remarks. He hired much help and he allowed no man to speak a loud word in his barn; nothing louder than a whisper. You must keep the cows quiet. It didn't matter so much about the feed.

T. McD. Richards: Said that was all well enough in theory, but he hadn't seen the man yet who wouldn't speak out loud, if he was raised by a kicker.

Mr. Cahoon: You should get good, quiet milkers from a quiet class of people. Set the pail right under the cows. Clean off the teats, brush them clean. He had to instruct all of his men in the matter of milking.

D. C. Seofield: Thought it was of great importance to keep cows quiet; it was very important, also, that they be kept clean. About keeping cows quiet: He had a man manage his dairy once who had a very quick temper, but he was always good with the cows—always kind. His next man was always yelling at the cows, and he always had trouble. He soon had a number of kicking cows. The cows fell off in their milk. These two facts kept in mind: Keep the cows quiet and keep them clean. A cow should never be milked until every thing is brushed off the udder, and there should be no talking. He had had men who would sing a nice little song when they were milking. It was necessary to keep the animals quiet when you milk. It always affects the milk to make a noise. Remember when you milk, that this question came up at the convention.

Mr. McLean: Would like to ask if any of them ever hired a man who could sing. Said he had cows that could kick a man into the middle of next week, and he had an Irish girl working for him at that time who would sing those old Irish ditties, and could milk the cows he dare not touch. Had a son who belonged to what they called a quartette, he believed, and who was getting to be quite a singer. He always sung while milking, and could get more milk from the cows than his father could, every time. His advice was to hire singers for milkers.

Geo. Sands: Had a fine cow once that would come up regularly every milking time to be milked; was as gentle as a lamb. He built a cow barn and got this cow in the first time to milk her, and found, to his sorrow, that she had what was termed back-action. He told his boys that they might experiment with her and see if they could break her of kicking, by force; but they made a failure of it. This was one of the best cows he ever had. He was in for kind usage.

Mr. Patten: Believed in what they called animal magnetism, and its results upon animals. He believed that some men would make a kicker out of any cow they would attempt to milk. He had two sons; one was a good milker, the other, he believed, honestly wanted to make one but could not.

Mr. Bartholomew: Thought there was something in this singing while milking. The best milker he ever had he had kept for twelve years. He never milked a cow that he knew of without singing, and never sung but the one song, and that was "The Sword of Bunker Hill." He didn't believe there was another song that could bring the milk that one could.

Dr. Tefft: Thought the factorymen were in error in their way of running the factories. They should visit each one of their patrons and see how and in what condition, they got their milk. The Illinois Condensing Co., of Elgin, had a rule, that their patrons' barns should be visited once each week or oftener, and examined. A little sour milk in the milk pail might spoil the whole batch that came to the factory. The manufacturer had not the interest he ought to have in this matter. It was not out of his pocket so much as it was out of ours. It should not be allowed for one man to spoil all. The Illinois Condensing Co. never let milk come into the factory until it was examined by an expert. It was impossible to make good cheese if you didn't examine your patrons' cow stables and appurtenances. If you wish to manufacture a good article you should examine your patrons' barns and find out how your milk came to you. Then again: were our factories clean and nice? Were they run on a clean principle? If all this was done we would not have so much fault found with our cheese in the future as we had now. He knew of Mr. Borden, president of the Illinois Condensing Co., going to the stable of one of his patrons and examining the milk-strainer. As soon as he smelled it he threw it as far as he could. Of course the patron was provoked, but Mr. Borden told him that he would get him a new one. After that the man brought good clean milk, for he knew Mr. Borden to be a man of his word, and he told him that if he brought impure milk again he would get rid of him. If all our milk was so handled we could make good cheese. He would never allow a man to take a particle of cream off the milk. If he bought the milk he bought the whole. If he found a man watering his milk he would cut him off mighty quick.

The committee appointed to select judges to examine the butter and award premiums reported the following:

JUDGES TO EXAMINE BUTTER.—N. C. Skelton, Boston; E. C. Ellis, Boston, and Geo. Hawthorne, Elgin, Illinois. Committee to draw the butter and take it to the judges: D. C. Wolverton, Belvidere, and O. W. Butts, Chicago.

They were instructed to retire to a close room, away from where the butter was stored, and allow the butter to be brought to them by the drawers.

The nominating committee then gave the following report which on motion was accepted and the nominees declared elected.

REPORT OF COMMITTEE ON NOMINATIONS:

For president, Dr. Joseph Tefft, Elgin, Ill.; secretary, W. J. Anderson, Elgin, Ill.; treasurer, R. M. Patrick, Marengo, Ill.; vice-presidents, C. C. Buell, Rock Falls; Hon. W. Patten, Sandwich; S. W. Kingsley, Barrington; E. H. Seward, Marengo; J. R. McLean, Elgin; I. Boies, Davis Junction; Luther Bartlett, Bartlett; Prof. F. Hall, Sugar Grove; I. H. Wanzer, Onida; Chas. Boone, Winnebago; John Smallwood, Freeport; L. B. Parsons, Flora; Capt. W. H. Stewart, Woodstock; H. W. Mead, Hebron; N. Eldred, Gilman, Illinois.

S. W. KINGSLEY, Chairman of Com.

QUESTION NO. 9—"The effects of drainage on different soils, and the best system employed"—was taken up.

Upon this topic, R. M. Patrick read the following paper:

R. M. PATRICK'S PAPER.

Mr. President, and Gentlemen of the Illinois State Dairymen's Association:

In giving my views upon the subject of drainage, I will state they are the result of some twelve years of practical experience upon a farm of 480 acres—which has rapidly increased in productiveness, and, more recently, owing much to more perfect drainage.

The lands which most need draining in this country are low lands, made rich by alluvial deposits left upon them by the overflow of streams, or the wash from higher lands surrounding them, and the decayed rank growth of coarse vegetation. These lands being of an alluvial character mixed with rich vegetable growth, form the richest land known, and when thoroughly drained are capable of producing the most luxuriant crops, and in this climate in a succession of years prove more productive and more valuable than much of the higher and dryer land. The natural growth of grass upon these low, undrained lands is coarse, sour and almost valueless for dairy purposes. Without drainage it is impossible to cultivate these lands successfully, or to raise the sweet cultivated grasses which are so necessary for producing a fine article of butter or cheese. So these lands—the richest known—when undrained remain of little value.

There is another class of lands, situated higher, which seem dry upon the surface, but the water line is so very little below the surface that the season is far advanced before the water gets well out of the tillable soil and the crops of grain or cultivated grasses on such lands are uncertain and unsatisfactory. Drainage of such lands immediately changes their character, making a profitable and reliable soil, which dries easily and can be worked early in the season—a necessity which yearly becomes more apparent in raising and ripening the corn crop. There is also in these soils great fertility which heretofore was locked up but which by drainage becomes liberated, through the action of the warm rains and air now penetrating the whole mass.

Soils which heretofore paid little or no profit are by drainage made to pay large profits, and to pay the entire expense of drainage in one to three crops of grain or cultivated grasses.

Drainage, to be effective, must be deep. Lands adjoining ditches are always saturated with water just as high or near the surface as the water-line in the ditch. On lands quite level the water often stands in ordinary shallow ditches within a few inches of the surface, while in a two and a half or three foot ditch it would stand much below the surface, leaving the adjoining land for one and a half to two feet below the surface free from water, in a condition to be worked early, and almost certain of producing a fair crop of grain or grass.

My former practice in draining was to employ men with spades or ditching machines; either plan always leaving an unsightly bank of earth on one side of the ditch to prevent the surface water from flowing in on that side, and making an excellent place to raise full seeds to be distributed over the adjoining fields. Recently I find I can dig wider, deeper and better ditches with a team and road scraper, and cheaper than by any other method. My plan is to plow the ground one furrow deep, the width of the scraper, the entire length of the field to be ditched; then scrape this plowing out the entire length, commencing at one end, carrying the dirt back several rods and spreading it evenly on the land. The team continually travels in a circle, carrying out a scraper full each time round. Then again plow and scrape as before, and so on until the ditch is from two and one-half to three feet deep, about three feet wide at the bottom and five feet wide at the top, with sloping sides, and the ground leveled on both sides, so that it can be cultivated to the edge and that the surface water is not prevented from running in. A man and team will make from eight to ten rods of such ditch a day; making the cost within twenty-five cents per rod. On lands where little but surface water is to be carried off a shallow ditch of this character will do, and it can be seeded to grass.

If the lands adjoining the deep ditch are springy and need further draining I then use tile drains, laying them never less than two and one-half to three feet deep, and at nearly right angles with the main drain, from five to ten rods apart, as the lands are more or less wet and springy.

The first field of ten acres drained with tile by me was favorably located for draining, and was done at an expense of \$5 per acre. The tile was laid in the spring and the field plowed and sown to oats and seeded to timothy and clover. The crop of oats was one of the largest ever raised by me, and was so badly lodged that fully one-half of the field was cut with a mower; yet the additional value of this crop over any heretofore raised on this field more than paid the entire cost of draining it. The next crop of hay yielded over two tons per acre; and the portion of the field which was heretofore wettest, and almost worthless, yielded fully one and one-half tons of fine timothy and clover hay per acre.

The second field, drained with open drain and tile, not so favorably located for draining as the first, cost \$10 per acre to drain, but was more perfectly drained than the first. The drains were laid in the fall and the field plowed ready for spring. The crop first raised on this after draining was oats, and yielded over forty bushels to the acre, of good quality. Two such crops would fully pay the cost of draining over the value of any crops heretofore raised on this land.

Tile drains laid with two-inch and three-inch tile cost me as follows:

18x2-inch tile, at \$12.50 per m. here, cost per rod	20c
Digging tile drain 2½ to 3 feet deep, cost per rod	10c

Cost of 2-inch tiles and digging drain, per rod	30c
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16x3-inch tile, at \$22.50 per m. here, cost per rod	36c
Digging tile drain 2½ to 3 feet deep, cost per rod	10c

Cost of 3-inch tiles and digging drain, per rod	46c
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The laying of the tile, after the drain was ready, and the filling of the drain, was done very rapidly by my own men, the filling being done with team and plow, and the expense of laying tile and filling drain would be from five to eight cents per rod.

Many are deterred from undertaking the drainage of their lands because of the expense; but every farmer can drain a few acres of land each year at a trifling addition to his yearly expense, and the small capital invested immediately becomes productive—lands which before were nearly valueless paying for draining with one or two crops, and paying large yearly profits thereafter.

The time has arrived in this part of the West when farmers must produce more from their lands to make farming profitable. Cheap lands are becoming scarce, and the tillable portions of old farms have by long cultivation become, in too many cases, so exhausted as to produce unprofitable crops, and the necessity is now fairly upon us for draining and opening up for successful cultivation of these rich undrained lands.

Mr. Patten (called upon): He could give no rule in this matter, nor lay down any law to follow. He didn't want to take up the time of the convention. We had many farmers who were using drainage, some one kind and some another. He would recommend the tiles. If a man was rich he could afford to let his land go without drainage; but if he was poor he couldn't afford to let a foot go undrained. He would lay down no rule,

either in regard to size of tile or the depth needed. You must be governed entirely by the land. He had made mistakes in draining, but he had found it profitable. Had used too small a tile. Had used from two to six inch tile at the depth of from two and one-half to nine feet. Your grade should be even, and at the mouth of the tile well protected. You would find that the cattle got at the mouth of the drain and destroyed it. Take a two-inch plank and level it off; the cattle will let it alone if level. It didn't answer to let the line sag, for, if you let it get out at the start a fine sand would run through and clog them up. Make the grade two inches to each 100 feet; you may need more of a grade if you run near a hedge. The fine fibrous roots of the hedge would fill up the tile. If you run under a hedge you would have to take up the tile every few months.

Mr. Scofield: Would tile laid three feet below the surface be protected from frost?

Mr. Patten: Yes, he thought so, but no water should be allowed to stand in the tile. The better way to lay it lower than three feet. He had found by experience that drained land was profitable—he knew it was. He had tried some very poor looking lands. He had had a pond of about two acres in area from which he had raised, after draining, seventy-five bushels of corn to the acre. His soil was the loose, porous soil, but thought that as good results could be had in all soils. One error was, we had too small tiles. His tile was large and round. Some of his neighbors had used tile sixteen inches. He tried to get tile laid solid, and that was a great point. One advantage of round tile was, you could lay it evenly and well. Never to get an experienced drainer to do your work. He had been fooled that way once. He got a man to lay the tile for so much per rod, and found that he was more particular about the rods than the tile. They should be left level; that was the great point. He could give no rule about size of tile, because there was a great difference in soil. He had run some ditches in peat bog and did not succeed; below the peat was a quicksand. He believed in some places you could run ditches shallow. In this part of the country they set their tiling deep. After the rain in the spring you would see that the first dry land was over your ditches. In covering joints of tile he would get clay soil. He had laid tile when they filled as he went along, but the first heavy rain after they were laid cleaned them out. In making his ditch he used what was called a "goose-neck." In laying he didn't allow his men in the ditch after leveling; it must be level bottom. In laying the tile he used a stick and dropped them into the ditch. In very wet spots he used his judgment as to how many feet apart to lay tiles. He had raised seventy-five bushels of corn per acre where it had been slough land. Most of the farms in Illinois were three-fourths good land. Sometimes you could put corn for first crop on drained land; on most land it would not do at first, however.

Judge Lawrence: Thought the question of drainage was one of the most important. He had drained land that was more rolling than that in this part of the state, where, owing to the peculiar distribution of the soil strata, the water ran out on the surface of ground. The trouble in drainage was that the water that came into the tiles was from the bottom of the ditch. Round tiles were the best. He knew something about the grounds of the Illinois Industrial School at Champaign. There had been many ponds on those grounds; now there were none. Tiling there did not cost more than one-eighth of what it did here. He had found it unsatisfactory to use small tiles. About the number he would say, you must have enough to drain well. His son had raised eighty bushels of corn per acre from ground that was once a pond. He thought all the rolling land could be benefited by the use of the drain tile. We thought we could not get tile because they were too dear, but when we got to wanting them very much then we would make them. In laying, the first thing to be done was to set your stakes; an inch to the rod was enough of a grade—but to be careful or it would fill up. Have it level. Make the fall a little more if anything going down a grade; to walk backwards as you laid the tile, and not to get into the ditch after the tiles were laid. You wanted clay for the bottom of the ditch to cover them. But you might get it all laid out for you, though you could never do anything until you learned by experience. An open ditch would not drain the land as well as tile. It filled up, and then you couldn't get the water from the bottom; still, you should use an open ditch in draining peat beds.

Mr. Patrick: Thought if all farmers had plenty of money to use, they should have large tile, but as they hadn't they must take the matter gradually. He had found no trouble in keeping open his open ditches.

Mr. Lawrence: Had seen open ditches used, and knew they cost double what tiles did, to keep them open.

Rev. Mr. Wren: Thought there was much difference in open drains. He would like to hear Mr. Patrick explain what kind of an open ditch he used.

Mr. Patrick: His ditch was two and one-half or three feet deep, and cost him twenty-two and one half cents per rod to dig. He had had no trouble with its being filled up so far, but if it did fill it could easily be opened again. He thought it was surely the cheapest ditch.

On motion, the convention then adjourned to 7:30 p. m.

--- EVENING SESSION.

WEDNESDAY, Dec. 10.

The assembly was called to order at 7:30 by the president.

On motion, the chair appointed a committee, consisting of J. M. Frink, L. Bartlett and J. H. Foote, to examine the dairy implements exhibited

The judges selected to examine the butter on exhibition then reported the following

AWARDS.

ELGIN BOARD OF TRADE SWEEPSTAKES.

	Points.
Premium of \$50 in gold to L. C. Ward, St. Charles.....	47½

THURBER OR HIGGINS SALT PREMIUMS.

Munn & McAdam, Belvidere, 1st, (gold medal).....	47½
C. C. Buell, Rock Falls, 2d, (silver medal).....	47½
W. A. Boies, Marengo (Home factory), 3d, (bronze medal).....	47

MOULTON OR ASBTON SALT PREMIUMS

W. A. Boies, Marengo (Union factory), 1st, (\$25.00).....	46½
Munn & McAdam, Belvidere, 2d, (\$15 00).....	45½
Geo. Sands, Belvidere, 3d, (\$10.00).....	45½

The awards were made on the basis of fifty points for perfect butter, divided as follows: Flavor, 10; make, 10; texture, 10; keeping, 10; color, 5; salt, 5—total, 50. Further on will be found a tabular statement of the points registered on all the butter exhibited. Instead of the name of the exhibitor will be his number, opposite the scale of points registered. As all knew what their numbers were, each exhibitor will be able to see at once wherein his butter failed.

The president called upon Mr. Wheeler, a representative of the Chicago Linseed Oil Co., who occupied a short time in explaining the usefulness of the linseed meal as a feed for dairies.

Mrs F. G. Hackley, of Marengo, then read the following paper on "The homes of dairy-men and what they should be."

MRS. HACKLEY'S PAPER.

Mr. President, Ladies and Gentlemen:

I quite agree with you. What presumption! What am I that I should have superior knowledge of dairymen's homes, and the conceit to even attempt to shadow forth their future? I confess to being intimately acquainted with one dairyman, possessing to a high degree interest in his home and surroundings, and out of supreme respect for him, and for most reasonable objections on his part, I know comparatively little of other men of like pursuit. I have viewed their homes, in holiday attire, occasionally in undress uniform and actual service. From my own experience and a glimpse of those traveling in the "milky way," it is a safe conclusion to arrive at, the homes in question must necessarily be exceedingly busy ones. Else should they differ materially from the homes of "the butcher, the baker or the candlestick-maker"? Are the dairymen considered a peculiar people in the land? Undoubtedly they are recognized by their dress of overalls and coarse boots with a broadway cut, which they wear with such an air as "smells to heaven." But what will not one endure with butter in the neighborhood of forty cents per pound?

Let the consumer felicitate himself upon his past good fortune, obtaining something for comparatively nothing, dairy goods being below the actual cost of production. "General average" has a word to say, and the late ruling prices bring sunshine and plenty into the dairyman's home. Once more is heard the merry jingle of the "almighty dollar" in his pocket, with the comforting assurance that the dairy industry is second to none. Little did our Puritan ancestors look forward to the day and generation when the mother country would stretch forth her hands in want to her exiled children, who are to-day proud to send her food and raiment. How providential in her straightened circumstances, that they can supply her every need from their abundance. Our depression for the last three years forced us to great exertions. We must make wonderful improvement to be able to sell our wares.

Over-production of inferior articles made them a drug upon our hands. With this mortifying result before us, and, to be second to none in the merit of our goods, are the reasons that to-day we find a ready and remunerative market. In the flush of our success we must not rest upon our laurels, but press forward to higher aims in this direction, and gain greater achievements. And this industry is complete and separate from the ordinary house-keeping, which, when combined, serve to make one's life a constant round of duties. It is a nice point, and no ordinary study and exertion is required to mingle with the world socially and religiously. True, where the milk is carried to a factory, there is less work for the house than where there is a home dairy. Yet the utensils, (which are many) must be purified with exquisite care. Eyes, nose and hands of the housekeeper are brought into requisition. Eyes to see that every point is reached, nose to assure herself all is perfectly sweet, and hands to accomplish the whole. Possibly the tongue, with suggestions in reference to cleanliness, manner of milking and care of apartments occupied by "Brindle" and "Snow-flake."

Milking is an accomplishment I would earnestly advise the dairyman's wife not to cultivate. She would not be, like Mrs. Toodle's eccentricities, "so handy to have in the house," but so handy to have in the stables on occasions. But friendly relations with the calves is to prolong their existence, and a financial success. Patient, exceeding patient, tender care. The little creatures are too often considered obstinate because they do not readily do that which nature has never required of them—drink some sour mixture that mortal is pleased to expect them to thrive upon. The circumlocution and gymnastic exercises necessarily, and affectively unnecessarily employed in teaching the infant bovine to drink, when undertaken by a man, would beggar description and fill books. Would we could read the other side of the story, bound in calf.

You may justly say, what has this to do with the 'homes of the dairymen?' Much, we assure you. Cotton was king until corn waved its tasseled scepter. Now, the cow and her progeny are absolute sovereigns, usurping unlimited power. Every effort must bend towards their well-being and comfort, else they will refuse to yield munificent returns, which gives prosperity and comfort to the household. What busy homes they are, too, 'from early morn' till dewy eve'! The dairyman's home. The name is suggestive of a comfortable degree of wealth. If that wealth is acquired by the present owner, it means that the day of good, strong, brave tusseling with poverty is over; that the foe he had wrestled with so long and stoutly, is vanquished. Yet to keep the vantage ground so valiantly gained, requires busy hands notwithstanding he can give his family many comforts and luxuries heretofore unattainable. "No man has a better right to kill himself by overwork than he has to do it by over-drinking. If suicide be a crime, he who dies by putting too great a task upon his strength, is as truly a criminal as he who dies by putting a bullet through his brain. If a certain amount of rest and recreation is necessary to a man's health and life, the omission to take it is as great an offense against God's law in nature as would be the omission to take food, and death by willful starvation is no more an act of self-destruction than is death by willful fatigue." One can not but be struck with the force and truthfulness of these remarks. Where is the remedy? Unquestionably the housekeeper in the dairyman's home is too often over-taxed—"The tireless service of willing hands, the strength of swift feet * * *". It is useless to enumerate the duties that pile themselves Alps high upon the weary shoulders, and more than useless to suggest a servant to lighten the labor. We remark here, emphatically, there are no servants in this progressive, enlightened, civilized nineteenth century, that know how to work. Then is it any wonder that the brow becomes ruffled and the voice takes on a hard, monotonous sound, directly in the face of duty, when the body is over-wary? We know full well, to be happy ourselves and to make others happy, our countenances should be placid and our cheerfulness assured by our vocal organs.

"Fie, fie! unknit that threatening unkind brow,
And dart not scornful glances from those eyes,
To wound thy lord, thy king, thy governor:
It blots thy beauty as frosts bite the meads,
Confounds thy fame as whirlwinds shake fair buds,
And in no sense is meet or amiable.
A woman moved is like a fountain troubled—
Muddy, ill-seeming, thick, bereft of beauty;
And while it is so, none so dry or thirsty
Will deign to sip or touch one drop of it.
Thy husband is thy lord, thy life, thy keeper,
Thy head, thy sovereign, one that cares for thee
And for thy maintenance: Commits his body
To painful labor, both by sea and land,
To watch the night in storms, the day in cold,
While thou liest warm at home, secure and safe,—
And craves no other tribute at thy hands
But love, fair looks, and true obedience."

That reads and sounds very well, Mr. Shakespeare: but the women of our time are doing their full share of keeping the home "warm, secure and safe." The world and women have made great progress in three centuries. Could we have stepped into the modest, unpretending home of the "Bard of Avon," where happiness seemed to dwell, and looked our surprise and pleasure, how surely he would have uttered these talismanic words: "Anne Hath-a-way!" An unknown author, in a poetic way, has sought to give us sympathy in some verses styled "Kitchen Consolation." Allow me to extend this sympathy:

"Oh! this baking and brewing,
This boiling and stewing,
And washing of dishes three times a day;
The griddle-cakes turning,
The skimming for churning,
The setting of tables and clearing away?

"What is it but weariness,
Work without cheerfulness—
The same round of labor day after day?
I'd rather be painting,
Or sewing or braiding,
Or spending my time in a pleasanter way."

"Thus my fancy kept dreaming,
O'er the hot dishes steaming,
And wondering why I must a kitchen fire tend,
Till an angel's low whispering
Compelled me to listening,
And taught me these household discomforts to mend.

"Is your work not the oldest,
The usefulest, the noblest—
In ministering daily to the life God has given?
If the work is unceasing
Of washing and sweeping—
Remember that order's the first law of heaven!

'Pray what gives more pleasure
Than a well-seasoned dinner
When tastefully served on the family board?
Thank God you can labor,
Can knead, mix an' flavor,
And draw pleasant meals from a farmer's rich hoard—

'That heartsome delight
At morn, noon and night,
When the family gathers for chat and good cheer!
Then should you be complaining
Of work unavailing,
That brings joy to the loved ones each day of the year?'

Strategic movements occasionally have a most happy effect in the home field. Let the lord of the manor but imagine he has his own way, how sweetly he will consider himself the originator of your feats of generalship and the household ship in its swan-like progress is a pleasing sight to behold. In all homes one or the other rule, and may no discord ever mar the beautiful harmony of that life. Without domestic happiness nothing on earth is to be desired; and with it, no withholding of earthly goods is to be dreaded. But the domestic machinery does not always run smoothly: sometimes it is on the center and doesn't run at all. There are examples of placid, lovely people often before our mental vision, "Oh! world look on and wonder," yet if we were to live the round of the seasons in their home-life, we would say the "half has not been told." Actually so like their neighbors, with a good bit of the common humanity flesh is heir to, with which to spice their everyday life, we heartily condemn their faults and ways, because they are out of our possession. How ours must appear to them.

'Home is where the heart is.' I once heard an old gentleman remark, and I thought how true, for if the heart isn't there, what a frail structure. To make it an attractive place, a happy refuge from the world, a pleasant abiding place, adorned and cozy, the heart must be interested. Whatever our vocation, we must be thoroughly alive and interested to be successful; and, our lives are what we make them. Yes, in a measure, and as truly, our lives often make us. We hit upon many sharp corners as we battle along, and wonder why—almost forgetting "there is a divinity that shapes our ends, rough hew them as we will." If we could only remember, in the toil and anxieties of our every-day life, we are weaving like the workers on tapestry, among the tangled ends and innumerable colors on the wrong side of the pattern. In our after life it will be presented to us in all its perfection and beauty, the threads even and beautiful, the colors fair to see.

It was a blessed mother that gave to a child these lines, to quell a turbulent, restless spirit:

'Be quiet, take things as they come,
Each hour will draw out some surprise;
With blessings let thy days go home,
Thou shalt have thanks from evening skies.'

And may these words of wisdom descend and cover us like a beautiful benediction through our lives, and—

'Let us gather up the sunbeams
Lying all around our path,
Let us keep the wheat and roses,
Casting out the thorns and chaff.
Let us find our sweetest comfort
In the blessings of to-day,
With a patient hand removing
All the briars from our way.'

After a short recess, in which the finance committee were allowed to press their claims, Dr. Tefft talked for a short time upon the subject of "Milk and its Uses," as follows:

Dr. Tefft: "Ladies and gentlemen—While waiting a few moments for an essay you will please allow me to invite your attention to some of the uses of milk, which are as follows:

1st—In its normal state it is one of the best of foods for young mammals. It is also good for those further advanced in life.

2nd—Milk may be condensed, with or without sugar, for use in the human family; if with sugar (called preserved milk), it will keep good for years.

3d—The caseine of milk may be made into cheese, for food.

4th—The caseine may be made into lactine, largely used for stamping or printing calico.

5th—The serum, or whey, of milk may be mixed with cereal caseine and made into a nutritious food for man in the form of cheese.

6th—Full-cream cheese—a thing that is but rarely found—yet good food for the human family.

7th—Milk is frequently made into koumiss, much used as a mild, nutritive stimulant in sickness. It contains about one per cent. of alcohol.

8th—The whey of milk may be evaporated and lactine, or sugar of milk, obtained, which we trust will be largely used some future day for culinary purposes.

9th—Sour milk is largely used in the United States to make jewelry called American coral, celluloid, and jet.

10th—The cream, or fatty part, of milk is usually made into butter. Butter contains—

	Summer.	Winter.
Margarine.....	40	65
Butter oil.....	60	35
	100	100

May butter frequently contains—margarine, 68 per cent.; butter oil, 30 per cent., and butyric, caproic and capric acids, 2 per cent.

A compound is supposed to exist in margarine consisting of three atoms of carbon united to 2 of hydrogen, which is named lipzle. This unites with an atom of oxygen, forming oxide of lipzle, C_3H_2O . Now margarine consists of—

1 of margaric acid.....	$C_{34}H_{34}O_4$
1 of oxide of lipzle.....	3 2 1

Gives..... 1 margarine— $C_{37}H_{36}O_5$

“Butter oil consists of—

1 of oleic acid of butter.....	$C_{34}H_{31}O_5$
1 of oxide of lipzle.....	3 2 1

Gives..... 1 of butter oil— $C_{37}H_{33}O_6$

“Now, when the oxide of lipzle is separated from the fatty acids, it unites with water and forms glycerine, or oil sugar—

2 of oxide of lipzle.....	$C_6H_4O_2$
3 of water.....	3 3

Gives..... 1 of glycerine— $C_8H_{17}O_5$

“If we add this glycerine to a mixture of sulphuric and fuming nitric acids, pouring it into water and washing upon a filter, we have glonoin, or nitro-glycerine, a substance which holds in reserve power sufficient to level mountain ranges.”

The following paper by Stephen Patrick, of Truxton, N. Y., on “The Origin of Soils, their Formation and Distribution: Explaining the soils and climates best adapted to dairying and the method of increasing their adaptation,” was read by R. M. Patrick, of Marengo:

STEPHEN PATRICK'S PAPER.

Gentlemen of the Illinois State Dairyman's Association:

In compliance with a request of a member of your association I write a brief essay upon “The origin of soils, their formation and distributions; explaining the soils and climates best adapted to dairying and the method of increasing their adaptation.”

1st. The origin of soils; their formation. In giving my views of the origin of soils and their formation I will give briefly a synopsis of the combined theories of modern geologists, who substantially agree that all soils have their origin in the destruction of ancient rocks; which, in the early geological period, covered the earth's surface. The granite formed the first stratum or platform, on which all other formations are rested. At the commencement of the first geological period all rocks lay in a horizontal position. During the early and middle geological periods, the whole of the earth's surface was subject to great and intense disturbance, caused by the action of intense subterranean heat and volcanic action; continents and islands were by the process of upheaval, elevated above the surface of the ocean. During the violent throes and convulsions which occurred at these periods in the elevation of continents and islands above the surface of the ocean, in many parts of the earth, their strata of rocks were twisted, bent, tilted, or thrown out of place, and often lay with a heavy dip; or in vertical position, in mountain ranges, hills and elevated plains. During these geological periods intense heat prevailed on the earth's surface, causing dense vapors and a great amount of rainfall on mountainous hills and plains, then elevated above the ocean's surface; forming rivers and streams, with rapid currents, plunging down mountain and hill-sides, with great force, scooping out canyons, gorges, ruins and deep valleys on mountains and hill-sides, disintegrating rocks from their beds, grinding, decomposing and pulverizing them to atoms while drifting their debris to oceans, seas, bays and lakes, which were continually receding by the process of elevation of land above their surface, forming large tracts of diluvial soils, on both continents. During the long succession of ages in which these diluvial or drift-soils were forming, the great heat and immense rain fall which prevailed during the receding of waters of oceans and seas and the formation of diluvial soils, caused an immense and luxuriant growth of vegetation on the earth's surface. The decayed matter of this vegetation intermixing with the materials of these diluvial soils or drift formations, in most parts of both continents, formed soils of great fertility. The greater portion of the great basin drained by the Mississippi, Missouri and Ohio rivers and their branches, and the lake system of North America, are soils of this character; formed mainly by the decomposition and pulverization of rocks underlying these diluvial deposits, drifted from a distance. These formations are wonderfully rich in calcareous, saline and alkaline matter, and mineral infiltrations, which being respectively to the geological periods of their formations, and are soils of great fertility and productiveness where there is sufficient rainfall during the summer and fall months.

2nd. The formation of alluvial soils. These soils are formed and deposited in river valleys by the annual overflow of rivers, by the removal of diluvial soils already formed, and the decomposition of rocks on the mountains and hillsides of the river sources drifting their debris or sediment, intermixed with vegetable matter, and depositing them in their valleys and in deltas at the mouths of rivers where they discharge their waters into

oceans, bays, seas and lakes. These soils partake in character of all the geological formations from which these soils were formed, and are generally rich in organic matter and mineral infiltrations, and are the most fertile and self-sustaining of all soils known; as in the valley of the Nile, Ganges, Rhine and valleys of rivers in North America. All taken together cover large tracts of country.

3rd. Soils of volcanic origin. The soils derived from volcanic action are of much less extent than either of the former ones. They have their origin wholly by the melting of the primitive rocks by intense subterranean heat and volcanic action. These melted rocks form lava, ashes and pumice, which are raised and forced through the craters of volcanoes during their eruptions, running down their mountain sides into the valleys and plains below them, and forming soils partaking of the character of all the rocks forming these soils. Volcanoes were more numerous and eruptions more frequent in early periods than at present. The soils derived by volcanic action are generally, where there is sufficient rainfall, moderately fertile, as attested by the magnificent forests grown on these soils in Oregon, Washington Territory and British Columbia.

The intrinsic value of volcanic action during past ages, in contributing means for the advancement of modern civilization cannot be fully estimated. By its action mountain ranges have been elevated. Their rocks have been tilted, bent, twisted and displaced, and their precious metals and mineral treasures have been revealed and made accessible to the ingenuity of men and used for the purpose of commerce and mechanical arts. All this in addition to the formation of valuable soils for agricultural purposes.

Having given a brief outline of the origin and formation of soils, I will, as I understand, give the order of their distribution, explaining the soils and climates best adapted to dairying. A sufficient and equal rainfall through the spring, summer and fall months, and an equable climate not subject to the extremes of heat or cold, are as essential to successful dairying as a fertile soil. The soils formed from the primitive rocks, even before the existence of organic life, being mostly volcanic and mineral-bearing as surface rocks are, with sufficient rainfall with a mild and equable climate, well adapted for dairying; as in Oregon, Washington, British Columbia and Montana. These countries and Great Britain, Belgium, Holland and Denmark, owing to their mild and equable climate, are in my opinion the best adapted of any countries known for dairying. All of these countries are situated between 45° and 50° of north latitude. The equatorial currents of the Pacific ocean, flowing with their warming influences northeasterly to the shores of California, Oregon, Washington Territory and British Columbia, passing through the valley of the Sacramento and the valley of the Columbia river, and through the great gap in the Coast Range of Mountains, 150 miles in width at Vancouver's, their currents of warm atmosphere, passing northeasterly through Oregon, Washington and British Columbia, till they meet the polar currents; then their course veering southeasterly through Montana, give these countries a mild and equable climate and sufficient rainfall, similar to the climate of England, Belgium and Holland, caused by the equatorial currents passing through the gulf stream across the Atlantic northeasterly to the shores of Western Europe.

The soils next in their order of formation are derived from the decomposition of carboniferous rocks, which were first elevated during the early part of the middle portion of geological periods. Elevation and subsidence continued through all ages of this formation with that portion of the earth covered by these rocks. Stratum upon stratum of coal was formed, with layers of rocks between each stratum of coal. Often the central portions of these coal basins were covered with drift, to the depth of 2,000 or 3,000 feet; while the outside rim of these coal basins came to the surface. The distribution of soils derived from these rocks, west of the Alleghanies and north of 37° of latitude and east of the Rocky mountains, is very extensive, and now ascertained to cover not less than 200,000 square miles—now being distributed among all the states and territories drained by the Mississippi and its branches, covering half the state of Illinois and some 20,000 square miles in Montana—taken as a whole, the most fertile of any class of soils on this continent. Most of these soils are well adapted for dairy production. The soils next in the order of their formation are magnesia limestone of Illinois, Wisconsin, Iowa, Missouri, Kansas, Nebraska, Minnesota, Dakota and Montana. They are contemporaneous with the Trenton, Black and Hudson river limestones of New York. The rocks which underlie these are in the Mississippi valley the same as in New York. The soils derived from the decomposition of these rocks are of great fertility and productiveness, and with sufficient rainfall during the summer and fall months and an equable climate, cannot be equalled on the continent for their adaptability to dairying. The next formation in its order is the Devonian. The Chemung sandstones of New York, New England, and Northern Pennsylvania are of the series of this formation. They occupy the greater portion of the water-shed from Nova Scotia to Ohio, when their waters discharge into the great lakes and St. Lawrence, on the north, and into the Atlantic on the South; being on an average about 1,600 feet above tide-water, the same elevation as the water-shed where rivers at the head-waters of the Mississippi flow south, and the Red and Mackenzie rivers flow north. The soils of this formation are mainly derived from decomposition of the sandstones and slate rocks, and are not as fertile as the latter or "the magnesian limestone formation," but their climate, owing to their elevation and the general equal distribution of rainfall through the summer and fall months, makes these soils the most reliable of any known on this continent for dairying. The other rock formations of the Devonian system are the Onondaga and Niagara limestones of New York. Cincinnati limestones of Ohio and Kentucky, Cedar Valley limestones of Iowa and Minnesota. All the states east of the Mississippi have large tracts of land of this formation which, as a general rule, have a soil but little inferior to the magnesian limestone formation of Iowa, Illinois and Wisconsin—and with a larger amount of carbonate of lime and organic matter than any other class of soils and of great fertility—but better adapted for the production of grain than for dairying. The reasons for the general abundant supply of rainfall during the summer and fall months on the great water-shed of the Chemung sandstone formation, may be explained by the fact that lands elevated 15,000 to 18,000 feet above tide-water, attract the moisture of the atmosphere, and produce a greater amount of rain-fall and a more equal distribution than those regions situated much lower or much higher than this elevation. The sources of supply

of moisture are the Atlantic on the south, and the great lakes on the north and west; their atmospheric currents meet on this water-shed and cause, as a general rule, an abundant rainfall. The same influences operate in part in causing rainfall in Illinois, Wisconsin, Minnesota and Iowa. The moisture of the upper atmospheric currents is supplied by the great lakes, and flows southwesterly, and returns in the lower atmospheric currents attended with rainfall—flowing from the south-west to the north-east, as established by a long series of observations made by the signal department at Washington.

On the subject of the best means to increase the adaptation of soils for dairying, I will mention one of the most practical manners of doing it. On all dairy farms it should be a standing rule with the owner of the farm to make all the manure possible from the produce of the farm, and judiciously apply it where most needed. It is a well-established fact that the liquid manure of an animal is worth quite as much yearly, if properly applied, as the solid manure is. Every stable should be so constructed as to save the liquid as well as the solid manures of animals. All portions of a dairy farm that are too wet to produce the best qualities of cultivated grasses should be thoroughly drained and cultivated, till fit to raise cultivated grasses in the highest degree of perfection. Low, wet, sour lands produce an inferior quality of grass but ill adapted to the production of milk for butter and cheese; but when thoroughly reclaimed by perfect drainage, are often the most valuable portions of farms for grazing purposes. As a rule there is no class of investments that pays better than thorough drainage of wet lands. For dairy purposes grass for hay should be cut while green, and never allowed to fully ripen. When grass is cut before it is fully ripe the quality of the hay is much more valuable than when left to ripen, and a second crop speedily starts; and then, also, is the proper time to apply liquid manure by filtering on grass lands.

In this country a 100-acre farm that will keep thirty cows is considered a good one. On the alluvial soils of England, Belgium and Holland, farms under thorough culture by a system of soiling and a judicious application of manure—solid and liquid—often keep two or three cows to the acre, and two or three crops of grass are often cut yearly. Heretofore the butter and cheese made in these countries were far superior to American manufacture, owing chiefly to their favorable climate, their practical knowledge of farming, and the superiority of their cultivated grasses and dairy stock. Recently America has made great strides in the manufacture of dairy products, and now American cheese competes fairly side by side with the best English-made cheese in its own markets. The progress made in the Western States during the last few years in the manufacture of butter has been wonderful. Twenty years ago Illinois was not considered capable of producing even a fair quality of butter. To-day she not only produces more wheat than any other state in the Union—being for the last year 45,000,000 bushels, to Iowa 40,000,000, Nebraska 37,000,000, Minnesota 36,000,000 and Kansas 30,000,000—but she has taken the front rank among the butter-producing states; and the butter now made in the creameries of northern Illinois and in your own immediate neighborhood stands higher in quality and sells for more in the great markets of this country, than the butter made in any other state in this great nation.

A suggestion was made by one member that the president call upon those who had received premiums on their butter to give a description of their modes of making the premium butter. As all present seemed to favor the suggestion, the president called upon Mr. C. C. Buell, who gave the following description of his plan:

C. C. Buell's Method: The milk was set in ordinary settlers in a cool room—not in water. It was skimmed in twenty-four hours, and skimmed the second time twelve hours later. The cream was kept twenty-four to forty-eight hours, or until a marked acidity appeared. It was churned in a revolving churn known as "Starks Churn and Butter Worker." The churn was started (cream being at a temperature of 64°)—made twenty-five to thirty-five revolutions in a minute, and butter appeared in from one hour to an hour and one-half. As the butter granules began to appear distinctly about three gallons of cold water was added to a churning of say sixty pounds. After a few revolutions the buttermilk was with drawn clean—the churn being stopped as soon as it was practicable to do this. Then a about three or four gallons of strong brine was poured into the churn and the churn carefully revolved so as to keep the butter disintegrated as much as possible and at the same time thoroughly to wash it. Afterwards a brine of, say two gallons of water and sixty ounces of salt, was added and the churn revolved three or four times, and the same repeated three or four times during, say half an hour or more. The butter was then put into a tub used for this purpose, allowed to stand one to three hours, then placed on the butter-worker and very lightly worked and packed for market. If there was an apparent lack of salt at the time of working, more was added, according to taste.

Geo. Sands' Method: Being next called upon, he said his process was very simple, and he had taken no extra pains with the butter which received the premium. Used the iron-clad pan. Set milk in winter forty-eight hours; first heated it to about 90°, then cooled it off as rapidly as possible—the colder the better. Kept the room where he churned at about 60°, and cream at about 62°. When the butter collected to lumps about the size of hickory-nuts, he stopped churning and rinsed the butter clean, after first drawing off the buttermilk. He then salted the butter—about three-fourths of an ounce of salt to one pound of butter. He used what was called the Marengo churn. He let the butter stand about twenty-four hours after the first salting, then added a little more salt. Used coloring that he made himself from anatine and curcuma root. His cows were of the Durham breed, and he had made through the month of November one pound of butter from each twenty-two pounds of milk.

On motion it was decided that the manufacturers not present, who had received premiums on their butter, be asked to give the secretary a statement of how they made their butter; the same to appear in the proceedings of the association. In accordance with this resolution the following statements were received from L. C. Ward, Munn & McAdam and W. A. Boies:

L. C. Ward's Method: The milk was received once a day at his St. Charles creamery, and set in deep pails in cold pools of water. The skimming was done while the milk was

sweet; the cream was left to acquire a slight acidity before putting in the churn. It was churned in a square-box revolving churn with a capacity of about 350 pounds of butter at a churning. Time taken to churn, one to one and a half hours, usually. Before the butter was taken from the churn it was washed with the necessary quantity of fresh water to wash out the most of the buttermilk; it was then taken out, slightly worked and salted with three-fourths of an ounce of Higgins' "Eureka" salt to the pound, and set away for twenty-four hours,—when it was worked again sufficient for the final packing. The working was done with a butter-worker run by steam power. Had made 150,000 pounds of butter at his creamery each year for the past two years.

Munn & McAdam's Method: Were very particular to get their acid right, as they considered it of great importance, and then brought the cream to a temperature of 63°. Run the churns so as to bring the butter in one hour. Care was taken to stop the churning while the butter was in a granulated state. The buttermilk was then drawn and water the same temperature put into the churn and the butter thoroughly washed, the water drawn off, and more water added. The butter was then taken from the churn and but slightly worked, when the salt was added at the rate of one pound of salt to twenty of butter, and thoroughly worked. Then the butter was placed in a warm room and allowed to stand twenty-four hours, when it was worked as little as possible and packed.

W. A. Boies' Method: His was very simple. Set his milk in open settlers; let it stand about twenty-four hours. Always allowed it to get a little acid before churning. Before putting in churn raised the temperature to 64°, and churned until the butter appeared in lumps about the size of peas. He washed the butter twice—until water came from it clear. Kept it cool enough to be firm while working. The butter upon which he received Higgins' salt premium was all from the same churning.

During the evening Rev. Hutchinson, of Marengo, was called upon to speak. He responded in a few well-timed remarks, in which he expressed himself pleased with the evident advancement of the dairy interests in this country. He was glad, he said to see so many of the younger class attending the meetings of the association. It rested with them to advance the business they were engaged in. He was pleased to see them take so much interest in the discussions on the various questions. The point of taking good care of cattle, he was glad to hear discussed. He thought the more care we gave cattle the more we would get out of them. Kindness to them would bring its reward. He was pleased to see the ladies out. This subject of home was a good one to discuss. We must not forget as we were traveling through this world that we had a social as well as physical nature that needed cultivation.

The secretary then read the following paper on "The Food Value of the Milk Product of the United States," prepared by G. P. Lord, of Elgin:

G. P. LORD'S PAPER.

"Three and one-half pounds of milk possess the same amount of nutrition that is contained in one pound of boneless beef."—*Willard's Dairy Husbandry*, p. 13.

"Every fat ox gives 57.7 per cent. of butcher's meat, including bones, to every 100 pounds live weight."—*Encyclopedia Britannica*, 8th ed., volume 9, p. 762. About 12½ per cent. of such meat is bone."—*Same work*, p. 762. Consequently 50 per cent. of a fat steer is boneless beef.

"The average annual product of milk in 1860 in thirteen states was 446 gallons per cow."—*Willard's Dairy Husbandry*, p. 20.

Assuming this as the average annual product per cow, the 13,000,000 milch cows in the United States will produce annually 5,738,000,000 gallons of milk, weighing 50,732,500,000, containing nutrition equal to 14,495,000,000 pounds of boneless beef; which is equal to the boneless meat in 20,650,000 fat steers of the gross weight of 1,400 pounds each, or 700 pounds each of boneless meat.

If we desire to find the money value of that amount of nutritive food we have only to ascertain the value of such cattle in our commercial markets. Estimating it at \$4.50 per hundred pounds, live weight, it amounts to \$63 per head.

20,650,000 steers, at \$63 per head, equal.....	\$1,300,950,000
Deduct one-fifth for hide and tallow.....	260,190,000
	<hr/> \$1,040,760,000

This is the food value of the annual milk product of the United States, compared with the same amount of nutrition in beef.

STATEMENT SHOWING THE ANNUAL LOSS OF MILK SUGAR IN MAKING BUTTER AND CHEESE IN THE UNITED STATES.

Milk contains 4-5 per cent. of milk sugar.—*American Cyclopaedia*, vol. 11, p. 543, sample 8.

Milk contains 4½ per cent. of milk sugar.—*Willard's Dairy Husbandry*, p. 500.

Skimmed milk contains 4.66 per cent. of milk sugar.—*Willard's D. H.*, p. 500.

Buttermilk contains 4-61 per cent. of milk sugar.—*Willard's D. H.*, p. 500.

Whey contains 4.57 per cent. of milk sugar.—*Willard's D. H.*, p. 319. (Average of 15 samples.

Butter contains 0.70 per cent. of milk sugar.—*Willard's D. H.*, p. 500.

Cheese contains lactic acid, but no milk sugar.—*Willard's D. H.*, pp. 340, 341 and 342.

Estimated quantity of butter produced annually, 1,000,000,000 pounds.—*Dept. of Agr Report for 1877*, p. 343. Estimate of cheese, 350,000,000 pounds.

To produce this quantity of butter and cheese (estimating 27 pounds of milk for one pound of butter, and 9½ pounds of milk for one pound of cheese,) will require 20,950,000,000

pounds of milk. Estimating $\frac{1}{4}$ per cent. of milk sugar and we find that quantity of milk contains 1,272,875,000 pounds of milk sugar. From this deduct milk sugar found in butter—7,300,000 pounds, and it appears that 1,265,575,000 of milk sugar is run off into the buttermilk and whey and lost.

We find that the New York wholesale price of milk sugar in 1879 was 40 to 50 cents a pound. —*McKessens & Robbins' Wholesale Druggist List.*

1,265,875,000 pounds of milk sugar at 40 cents per pound.....	\$506,350,000
“ “ if valued at 20 cents “	253,175,000
“ “ “ 10 cents “	126,587,500
“ “ “ 5 cents “	63,293,750

Here we have the startling fact before us that the annual waste of milk sugar in the United States—a valuable constituent of milk—if valued at one-eighth of the New York wholesale market price amounts to a sum greater than the entire annual sugar crop of Cuba.

On motion the convention adjourned to nine o'clock Thursday morning.

MORNING SESSION.

THURSDAY, December 11.

The assembly was called to order at 9:45, the president, Dr. Tefft, occupying the chair. Topic No. 10—“Manures—Natural and Artificial—the best manner of application to the different soils”—was taken up first. Upon this question L. W. Sheldon read the following paper:

L. W. SHELDON'S PAPER.

Mr. President, Ladies and Gentlemen:

In discussing this question I have not much to offer that is new. The question has been discussed at our gatherings until it is familiar to all.

What is manure? Any substance that enriches the soil. The waste at the farm yard of vegetable and animal substances, in a decaying condition, is manure or plant food. He that can make two blades of grass grow where but one grew is a public benefactor. This can be done by a judicious use of fertilizers.

As a rule, all manures should be applied to the surface soil, as fast as they accumulate. Where it is practicable, draw daily, and spread direct from the load. If for meadows or pastures, apply in fall or early winter; harrow in spring with a smoothing harrow. For corn land, apply upon fall plowing in fall and early winter. If the manure is coarse, do not hesitate to apply liberally and cultivate in the spring. The above has proved a success with repeated trials upon sandy prairie soil. Where a three years' rotation is practicable, clover and timothy make the best of fertilizer. Land will increase in fertility by repeated heavy seeding and plowing the sod under. Clover is the farmers' friend. Sow liberally. It is a good investment to sow clover with all small grain; it is worth many times its cost as a fertilizer if not wanted for meadow or pasture.

Commercial fertilizers can be used to profit in the absence of barnyard manure. I have used bone superphosphate upon oat and corn land. With a four-years' trial it increased the yield fully forty per cent. It was applied to the surface and cultivated in. Common salt gave equally good results. In many individual cases salt has increased the wheat crop from fifty to seventy-five per cent. The profits of the farm are in what you have to sell, instead of that you buy. If we practice that which we preach, we will have to buy less and have more to sell. Let me repeat it: sow clover, and sow it liberally.

Mr. Patten: Was troubled with his oats lodging. It generally cost him more to have them harvested than they were worth. He would like to know how to obviate it.

Mr. Sheldon: Thought salt could be used to good advantage on all soils. It would strengthen the straw.

Judge Lawrence: Wanted to say a word against the use of artificial fertilizers. He had lately been traveling and visiting farms in New York. He inquired of some of the farmers how they kept up their soils, and he found that they were paying more for artificial manures than they got out of the land. He raised about two bushels of grain to his neighbor's one. He had a piece of soil that was naturally strong soil. It was what was called sub-soil. He ploughed that up in 1837, and, without exception, it had borne a crop of grain every year from then until 1876, when he raised a crop of clover on it. He had tried to plow the clover under, but it was so rank he could not. So far as he could see, that land was just as strong now as it was forty years ago, and the only manure it ever had was the vegetation he had ploughed under. He always spread manure on the surface, and he drew it from the barnyard as soon as made. Yet this rule would not always work. He remembered a few years ago he had a number of straw piles, and he spread these on twenty acres of land, and planted this to corn and made 3,000 bushels of corn. The result was, next season it was better yet. Make all the manure you can. If you have any weeds on the farm, don't burn them, but pile them up and make manure. He wanted his land full of clover all the time; it was good for everything. No matter if there were some clouds, cure it as best you could; put it in the barn, if there was no water in it, and it would come out all right. He spread his manure in winter as he drew it out. He never had any trouble about corn ripening in rich land.

Mr. Scofield: Would like to know if corn would ripen as early on manured land as on poorer.

Mr. Bishop: Yes, sir.

Mr. Lawrence: Knew of a man in the State of New York who took poor clay land and manured it until he finally could raise fifty bushels of wheat to the acre. When asked how he did it, he answered, "With manure, and a little more of it."

Mr. Cahoon: Told of a man who raised cattle. Some one asked him how he kept his pastures in so good a condition. He said he didn't go and buy more steers every time a fresh blade of grass appeared. Thought that was a good point. Not to skin your pastures too closely.

Thos. Bishop: Thought the aim of manure was to make the land produce more. He knew but little about it, but what manuring he did was on the surface. He sometimes ploughed it in. He never kept a field in grass very long. He was always breaking up and always seeding down. He knew but little about artificial manure. Had seen some experiments with patent manures but didn't consider them a success. He found in manuring that it didn't cost him any more to produce forty and fifty bushels of corn than to produce thirty and forty. He used to fatten a great many cattle, and found that corn raised on land that would produce 120 and 125 bushels was much better than corn raised where the yield was less. The meal was always worth more. It was the same with pasture land. He kept account of everything in his business. He knew just what his expenses were. He had found that in buying cows for thirty and forty dollars he had made a hundred dollars. He thought this was on account of rich pasture. Had found in pasturing that a forty-acre field, where it was well manured, would keep much more stock than if it was poorly manured. It paid to keep your land manured well. This year he had raised some corn on surface-manured land and got 120 bushels to the acre, and thought that this corn was worth more than any raised on poorer land.

Mr. Patten: Would differ a little from Bishop. He thought that manure drawn out in piles served as a mulch and kept land from drying out.

Mr. Cahoon: His agricultural paper said that good tillage was manure, and he agreed with it.

Mr. Lawrence: Thought if we could get our manure on before it heated we would derive the greater benefit from it.

Mr. Bishop: Raised a good deal of grain. His barn-yard had been covered very deep with manure. He drew out when the summer work was over, and it heated in the fall. He would just as lief have a load of such as that which came from the stable.

Question No. 10 was then passed, having been pretty well discussed, and the next question, that of legislation, taken up.

M. H. Thompson: Said he would like to ask if the duties of the legislative committee, appointed at the last annual meeting, were considered at an end, or would the committee hold over another year.

On motion, it was decided that the same committee should hold over another year.

J. R. McLean: Said we needed help from the legislature to enable us to publish our proceedings and statistics. In the southern states they knew but little about the business, and we must enlighten them by our publications. When he was down south he met a man who was in the dairy business on a small scale, who asked him if we milked our cows in this country more than once each day.

W. Patten: Had little faith in this matter of legislation in behalf of the association. He was, as an individual member, able to take care of himself. All he wanted was a guarantee of protection to himself and property. We wanted laws that would be a benefit to us. We could get very little out of it. Had very little confidence in these matters. Was not in favor of monopolies. If he could set no other objection to the matter, he would bring up that—objection to monopolies.

Mr. McLean: Said Patten didn't understand what we wanted. We were paying taxes to publish and circulate proceedings of the State Horticultural Society, which was of no more importance than the State Dairymen's Association. We wanted an appropriation to enable us to print our proceedings, and send them south, where they needed instruction.

Mr. Patten: Could not be hired for fifty dollars to wade through one of those lengthy state society reports, and he had seen printed reports that had cost the state \$23,000 that he wouldn't give ten cents for.

Mr. McLean: Knew that these reports were, as a rule, uninteresting, but he was in favor of getting up some that were readable.

Dr. Tefft: Said it was a well-known fact that they had better agriculturists on the other side of the water than we had here, and there they had their schools and gave them instruction in the matter. Our state had attempted such a school at the state institution. The dairymen of this state paid large taxes. All their property was taxed. Now, if we could get any privileges as dairymen we should get them. It was well known that we couldn't keep up a board, and we must have a station of investigation. The legislators did their work and got their pay, but didn't look to our interest. If we could, in any way, advance or improve by such, the standard of our products, we would make much. The butter product of Illinois for the year was 42,000,000 pounds. If we, by means of help, could make butter that would bring us one cent per pound more than it does, we would realize a nice little amount from it.

Mr. Patten: Said if you got any thing like a state board established by law you simply gave another chance for a certain class of men to get office. He agreed with Dr. Tefft fully, but he didn't want a government such as they had over the water to rule over him. He wanted to see this matter kept separate from the State. It only opened a chance for the governor to favor a few more of his friends by giving them offices. We were making good progress and got along well any way, and ought not to complain.

Mr. Lawrence: Would like to ask Mr. Patten if he was opposed to printing state auditor's reports. Because the masses did not read them, was it any reason that they should not be printed?

Mr. Patten: We got all the information needed on these subjects from the papers. He didn't need these reports.

Mr. Lawrence: Was acquainted with many men in the south who were in the business. Thought there were some good dairymen there who were good butter-makers. His friend, John M. Pearson, could make as good butter as could be made in this section. He thought no appropriation would ever be gotten from the State until men were sent to the legislature who had some back-bone in this matter. Then you must send those who could get their votes. Look at the Industrial Institute at Champaign! The officers of that institution, at one time, were practical farmers; the present ones were politicians and theorists.

M. H. Thompson: Said he would like to ask Mr. Patten how they were going to pay the expenses of the association and get the proceedings printed with forty-five dollars—the amount in the treasury.

Mr. Patten: Would say again that he thought we got all the report of such proceedings we needed from the papers. If it got to be a state institution it would soon be like the Champaign school; it would get into other hands very soon.

Mr. Thompson: Said the idea was this: The State votes to expend so much for the support of other organizations. We, as dairymen and farmers, pay a large portion of this tax and ought to reap a benefit ourselves.

After some scattering remarks by other members of the association the subject of legislation was dropped.

Dr. Tefft suggested that the association fix a place and time for the next annual meeting.

E. H. Seward, in behalf of the people of Marengo and the Kishwaukee Farmers' club, extended an invitation to the association to meet in Marengo.

On motion this invitation was accepted.

Suggestion was made that those who had received premiums on their butter be asked to donate part of their premiums to the society.

Prof. Frank Hall, of Sugar Grove, was then introduced and read the following paper on "What will Education do for the Farmer?":

PROF. HALL'S PAPER.

A well-known Illinois educator remarks in substance as follows:

"The average Western farmer toils hard early and late, often depriving him of needed rest and sleep,—for what? to raise corn. For what? to feed hogs. For what? to get money with which to buy more land. For what? to raise more corn. For what? to feed more hogs. For what? to buy more land. And what does he want of more land? Why, he wishes to raise more corn,—to feed more hogs,—to buy more land,—to raise more corn,—to feed more hogs,—and in this circle he moves until God Almighty stops his hoggish work!"

Whether or not this is a fair criticism of the Western farmer, it is an undeniable fact, that too many of us are slow to perceive utility in any thing except that which will at once add to our material wealth.

You can measure the genius and guess the occupation of the man, who, after viewing for a moment the great Niagara casting its two millions of tons of water per minute into the chasm below, while beholding this most wonderful, this most stupendous work of nature, could exclaim "What a fine chance to wash sheep, boys!"

People are numerous who can see no value in a magnificent cataract, with all its sublimity and grandeur, unless it can be made to assist in the accumulation of material wealth—unless it can be made to turn the grindstone, water the garden, grind grain, saw wood, pump or churn! To such persons a picture of Niagara or of Yosemite, even though executed by a Bierstadt, would be utterly useless. Their farms, their homes, their houses, their cattle, and I almost said their wives and their children, are valued only in so far as they will aid them in making money.

I value the dollar. It is mighty, but not almighty. Under certain circumstances it is the desirable thing for a man to possess. But when a man has more dollars than he needs to satisfy his physical and intellectual wants—more money than he needs to buy food, clothes, a home and such mental privileges as he is able to appreciate, it were far wiser for him to spend his time in increasing his capacity for intellectual enjoyment, rather than in the accumulation of property which he can never use.

There is a man in Kane county who has a mania for collecting whips. Every scrap of leather is by him transformed into a whip-lash; every suitable piece of wood into a whip-stock. When I last saw him he had one thousand whip-stocks and fourteen bushels of lashes! and he was very anxious to complete another whip that day. Such a man is scarcely more foolish than he who has a mania to accumulate money beyond the amount which he has the ability to use for his own enjoyment and for the comfort and welfare of his friends and of humanity.

Intellectual development—knowledge—increases our desires, and our capacity for enjoyment. The fool is easily satisfied. Beyond the food and clothes which are an absolute necessity, his wants can be as easily supplied with a few dollars as with millions. The more one knows the more it will take to gratify his reasonable desires.

What will education do for the farmer? It will increase his capacity for enjoyment. I speak now more especially to our wealthy farmers—men who are worth from ten to fifty thousand dollars. Among my acquaintances are such individuals; men whose annual income would be ample to provide for every want, even if they should refuse henceforth to perform physical labor. They have enough, as the saying is, "to carry them through;" and then there would be sufficient left for the heirs, to ruin a family of six children after giving the lawyers half! In their homes you will find no libraries, no pictures, no

musical instrument, few carpets. They seldom attend lectures, or concerts, or even dairymen's conventions. They can't afford it. They are saving their money—for what? to buy more hogs! They have never heard of Whittier, or Longfellow, or Herbert Spencer, or Huxley. They don't know whether Shakespeare is living or dead. They are interested in European wars, because these raise the price of hogs. Almost their only enjoyments are eating, drinking, sleeping and accumulating.

What will education do for such?

I repeat, it will increase their capacity for enjoyments, and will check them in their avaricious, inordinate accumulations.

This latter is desirable. The accumulation of excessively large fortunes is oftener a curse to the heirs, and to a community than a blessing. To borrow a figure: the snow, when evenly distributed over the land, becomes a source of pleasure and profit; but when piled in drifts mountain high, it impedes travel and becomes a source of great annoyance. So with wealth; when evenly distributed, its benefits can scarcely be over-estimated; but when it 'drifts' it becomes a hindrance rather than a help in the onward march of civilization. The Creator evidently so understands it; for he seldom fails to give to avaricious, grasping parents, spendthrift children who quickly scatter (with the help of the lawyers) what has been so injudiciously piled up. Indeed, I sometimes think this is why God permits lawyers to exist. (If you have a fortune which you want leveled off, for the good of humanity, employ a lawyer.)

What will education do for the farmer? It will enable him to spend more money for his own real enjoyment and for the promotion of the genuine happiness of his family and friends. It will convert hovels with bare walls and bare floors into beautiful homes with pictures and carpets and books and periodicals and musical instruments. It will give us more of those comforts and intellectual enjoyments by which civilized man may be distinguished from the barbarian. By it will our lives become more musical, more poetical—less sensual, less groveling. Creamery butter and Cheddar cheese are good for the stomach, but the mind cannot feed upon them.

What will education do for the farmer? 'Twill force him to pay ten dollars for railroad fare where he pays but one now;—to attend lectures, the theatre, expositions, agricultural fairs, farmers' institutes, and dairymen's associations. 'Twill induce him to buy a library of 200, 400, 500, or even 1,000 volumes, and a three-hundred-dollar case in which to put it. 'Twill coax him to take a longer rest at noon that he may have time to listen to the "Tales of a Wayside Inn," or a chapter from "David Copperfield." 'Twill force him to leave off work earlier at night that he may have time to read the president's message or the Tribune's comments thereon. 'Twill teach him oftener to leave the pig-pen and seek the parlor; not because he loves Berkshire music less,—but because he loves piano music more. 'Twill double his annual expenditure for clothing; for the old frock and old overalls will be considered unsuitable in which to appear in the lecture room or even on the cars. More ribbons must be bought and the dresses must be made in style, that Mrs. A. and the daughters may not be ashamed to appear in the society of cultured people. More than this,—napkins must be purchased and napkin-rings and China and silver ware, that the table may be appropriately furnished and adorned; for the educated farmer will often desire to entertain ministers, editors, and intelligent men of all classes, who are accustomed to such things. More boot-blackening will be needed, more yellow lace, more kid gloves, more red mittens, more embroidered bal-briggans, more puffs and curls and Saratoga waves, more stove polish, more pomatum, more German cologne, more paper, more postage stamps, more tooth-brushes, more scrub-brushes, more brooms, more soap and water.

I tell you, my farmer friends, this education is an expensive thing. Beware! beware! For every dollar you expend in educating your sons and your daughters beyond what is absolutely necessary in the performance of their every-day duties, you may some day be forced to pay ten dollars to satisfy the wants that the dollars worth of education will have created.

But there is another side to this argument; not only does education increase our wants, but if a due proportion of it be of the practical kind, it, in nearly or quite the same ratio, increases our ability to earn.

It makes us of more value to the world, for which the world will cheerfully pay us. We may thus earn more, spend more, enjoy more. We may elevate ourselves, by so much, above the level of the brute. A symmetrical education simply increases a man's capacity for doing and enjoying. It doubles him, quadruples him; enables him to give more to the world and receive more from the world; makes him occupy a larger place in the universe.

If the education is truly symmetrical—if there is physical development, brain development and heart development, it lifts him away from the brute and up towards God.

But in all this I speak of that education which is best adapted to a man's wants, ever keeping in mind the occupation or profession by which he proposes to serve humanity and gain a livelihood.

It must be borne in mind while discussing this subject that the educational field is immense. A life-time may be devoted to a survey of the merest corner of it. Zoology, botany, chemistry, astronomy, mathematics, language, either of these subjects, the average mind cannot master in three score years and ten. Therefore, let it be granted that an education is desirable for all, and still the question remains: In what corner of the broad field shall the farmer, the merchant, the lawyer, labor? Shall they, hand in hand, laboriously travel over that part of the field where Greek roots once grew, and then, turning to the barnyard, together snuff the gases arising from the manure heap in the effort to detect the presence of escaping ammonia? Or shall the lawyer devote his early years to the study of those branches best adapted to the development of linguistic powers, while the farmer devotes his time, for the most part, to the acquirement of such knowledge as will be of practical utility to him in his life-work? How much time shall the farmer devote to language? How much time shall the lawyer devote to agricultural science? How

much time can the farmer devote to the study of poetry and music, and how much time can the poet-musician afford to devote to the science and practice of agriculture? These are questions that force themselves upon us.

To return to the question assigned to me to answer: "What will education do for the farmer?"

If you mean by education such mental culture as is obtained in the average high school, I can answer, unhesitatingly, it will make him a lawyer or a doctor, or a minister or an editor. Or, if by chance circumstances force him to become a farmer, he does it under protest.

Teach a man German to prepare him to travel in France, and when he arrives at Paris he will realize that there is a mistake somewhere. Show a young farmer all the advantages and attractions of a mercantile or professional life, and none of those which are peculiar to agricultural and horticultural pursuits, and the chances are that he will soon abandon the country and seek the city. The farmer may love music; but if while he is still a farmer, he devotes an undue amount of time to the science of music, and utterly neglects the science of agriculture, the probabilities are that his farm will soon cease to be sufficiently remunerative to enable him to gratify his love of song.

A young man enters the high school. Immediately, he commences a course of training exactly calculated to fit him for professional or mercantile life.

Those branches of study which lawyers and doctors and editors and ministers have ever found advantageous to them in their spheres of labor, are made most prominent in the school. But not one branch of study is found which is especially adapted to the wants of the agriculturist!

Does the pupil study chemistry? He is taught that part of the science which the druggist or physician especially needs. Or he is lead to view in a most superficial manner, the science as a whole, from the stand point of some great investigator. Of its application to agriculture he learns little or nothing. He learns the names of the elementary substances and their atomic weights, but of the compounds of which ordinary soils are composed he knows nothing. He can represent upon the black-board many of the most complicated chemical reactions, but of the effect of mixing wood-ashes and animal manures he is ignorant.

The chemistry of food (especially the food of the herbyvorous animals) is the subject of brief mention, or, perhaps is entirely neglected.

Does the pupil study botany? He will learn to define a few score of technical terms; he will become somewhat familiar with the binomial system of nomenclature; he will perhaps analyze a few flowers and learn to speak their botanical names. All this is useful information, and very proper in its place; but why omit that part of botany which would be of most value to the agriculturist? The student is brought face to face with pretty wild flowers. He learns to recognize fifty or sixty of them, and—he has "completed botany," and triumphantly passes his "first examination" in the study. (Indeed, this is much more than is done in many schools.)

He has finished the study, but he cannot tell "a red oak from a white oak," "a hard maple from a soft maple," "a hickory from a bitternut," "a black walnut from a butternut," "a bass-wood from an ash," unless he learned it at home on the farm. The pupil has completed the study, but his attention has never been directed to the different species of weeds in the garden, or to the different kinds of grasses that are used for forage. He cannot tell a red clover leaf from a white clover leaf if they are alike in respect to size, nor does he know whether red clover is a biennial or a perennial.

As with chemistry or botany, so with other studies.

"Professional men" have, for the most part, arranged our text-books and our courses of study, and it is by no means surprising that we find therein just those branches and methods which are best calculated to fit the student for professional life.

What will modern high school education do for the farmer? I repeat, it will make a "professional man" of him; and the figures are not wanting to prove this assertion.

Of the twelve and one-half millions of people in the United States engaged in gainful and reputable occupations, not far from 3 per cent. are engaged in professional services.

Perhaps it is safe to say that the lawyers, the physicians, the teachers, the clergymen, the journalists, the artists, and the land surveyors, constitute something less than three per cent. of those whose vocations are remunerative and reputable.

Nearly fifty per cent. are engaged in agriculture, while the combined industries give employment to upwards of eighty per cent. of all those who, by their own labor, either mental or physical, add to the wealth and prosperity of this great republic.

Now, if it be true, as is claimed by many, that the course of study in our high schools is equally well adapted to the needs of all classes, it would be expected that not over three per cent. of the graduates would attempt to gain a livelihood by professional services. Either this must be true or else there is a demand for a greater proportion of professional men, which no one believes.

What are the facts?

More than sixty per cent. of the male graduates become professional men. The vocations, present and prospective, of the male graduates of several high schools which are believed to represent fairly the high schools of Illinois, are as follows: Ministers, 14 per cent.; teachers, 24 per cent.; lawyers, 14 per cent.; mechanics, 10 per cent.; physicians, 11 per cent.; merchants and mercantile clerks, 14 per cent.; undecided, 10 per cent.; farmers, 3 per cent.

One high school in Northern Illinois, than which few rank higher, numbers among its graduates during the past twelve years, 123 persons, of whom thirty-two are males; of these three are mechanics, and one is a farmer. And yet they tell us that the course of study in our high schools is equally well adapted to the needs of the farmer, the mechanic, or the lawyer.

Another school which, in point of popularity, has no superior, boasts of 20 male graduates; of this number three are farmers, and one is a mechanic.

Of the male graduates of either of these schools, not 14 per cent. become handicraftsmen. Send a young man into one of these schools in order to make an intelligent farmer of him, and before the course is half completed he will tell you he wishes to study law.

The tendency of our high school system is away from the farm, away from the workshop, and towards the pulpit and the bar.

Our present system of public education is a long and costly stairway, near the bottom of which may be found the plow, the anvil, the saw and the loom; a little higher the yard-stick and the ledger; at the top, the editor's chair, the bar, the pulpit and the rostrum. This stairway is broad and cheap at the base, but its upper portion is narrow and expensive. It should be made throughout *as broad as at the bottom*, and should reach to the farthest height to which the would-be farmer, mechanic, and lawyer can, hand in hand, advantageously climb. Let us, as farmers, demand that if Greek and Latin and German and French and algebra and geometry and trigonometry are to be taught in the public schools, and at the public expense, that the "Elements of Agriculture" shall also be taught; this latter term to include the chemistry of soils and manures, farm botany, farm entomology, the science of breeding, the philosophy and chemistry of cream raising and of butter and cheese making, the chemistry of food, the history and peculiarities of the various breeds of cattle, hogs, horses and sheep. More than this: let us demand that for every *three dollars* expended in the teaching of those studies, the tendency of which is *towards the professions*, fifty dollars shall be expended in teaching those subjects, the tendency of which is *towards the farm*.

This is but fair when we remember that but 3 per cent. of the twelve and one-half millions of earnest workers are professional men, while 50 per cent. are farmers.

However much we may delight in poetry and music, in painting, sculpture, history and philosophy, in culture, this fact remains: people will not, as a rule, devote years to hard intellectual toil, except they believe that in some way, and at some time, the knowledge thus acquired will become the "*basis for action*."

And, too, to some considerable extent, at least, it must be made the basis of such action as will have a money value. Be it otherwise, and the man will have increased his desires without a corresponding increase in the means of gratifying them.

Let the education of a young man be chiefly of that practical kind which he can use in his chosen life-work, and you give him the ability to earn more dollars with which he can gratify his love for that higher education, which, although it may have little or no money value, is *invaluable*. Reverse this process: let him become enamored with poetry and philosophy and music, to the neglect of the practical education which he might use in his chosen occupation, and you have increased his expenditures and diminished his receipts. You have made him of all beings the most miserable. Hungry and thirsty, you tantalize him by showing him luscious fruit and sparkling wine just beyond his reach. Ignorance to him would, indeed, be bliss.

What will education do for the farmer? If it be that kind of education, that its results, in part, at least, may appear in his well-filled corn-cribs, in his heaped up potato bins, in better shelter for his cattle, in a more judicious selection of animals for breeding purposes, in the more perfect adaptation of food to the necessities of the animal, in better butter and more of it—such an education he may be induced to acquire; and, having thus built a substantial educational edifice—an edifice of which the foundation stone and the frame are the "common English branches;" the siding, the roof-boards and the shingles—those branches that are especially adapted to the necessities of a farmer, he will then desire to put on a cornice of poetry, with musical modillions; an astronomical cupola, with philosophic minarets; historic balconies and fanciful arcades. Let him do it. Induce him to do it. He is as much entitled to an educational palace as the lawyer. These palaces may be equally attractive, equally spacious, but not alike. The foundation stones and frames may be similar, but *Latin roof-boards and Greek shingles will hardly keep out the rain over the head of the farmer*.

To the lawyer and minister great skill in the use of language is a necessity; to the farmer it is, at most, only a convenience. To the farmer, a knowledge of the chemistry of soils and foods and manures is a necessity; to the lawyer it is secondary in importance. Poetry and history are suitable ornaments for the farmer's educational palace—for the minister's they are substantial covering. In conclusion, permit me to say to any who may be connected with our educational system, either as teachers or school directors, if you really desire to see the industrial classes of this country brought to a higher intellectual plane, *first*, give to them these branches of study, a knowledge of which will have, to them, a money value; knowledge that they can make the "*basis for action*;" knowledge that will enable them to succeed financially in their chosen vocation, that they may not be burdens upon society, but that they may possess the dollars necessary to provide for the physical and intellectual wants of themselves, and of those that may be dependent upon them.

Last in order, but by no means least in importance, let us give them that knowledge which will enable them to engage, during the leisure moments of life, in such intellectual and artistic pursuits as will be gratifying to them, a benefit to humanity, and will entitle them to a high position in the social scale.

On motion it was decided to hold the next annual meeting one week later in the month. The committee appointed to examine the dairy implements then handed in the following report, which was read by the secretary.

THE COMMITTEE'S REPORT.

Clark's Improved Revolution Pan, we consider a very good pan for deep setting, and worthy of recommendation. It is manufactured by Conger Brothers, Manchester, Iowa.

Hawkeye Submerged Milk Pan, exhibited by J. G. Cherry, Cedar Rapids, Iowa, we would recommend as worthy of trial and use; the best we have seen for the submerged

process of raising cream, and would particularly recommend it for those raising cream for factories.

Cherry's Transportation Can is an improvement on the large carrying can, and worthy of adoption.

J. F. Lester's Square Churn is so wide and favorably known that it needs no recommendation from us.

J. M. FRINK,
L. BARTLETT,
J. H. FOOTE,
Committee.

On motion of J. R. McLean, a vote of thanks was tendered to the people of Merengo for their hospitality to the visiting dairymen.

On motion, the association then adjourned to Wednesday, Dec. 15, 1880.

SECRETARY'S REPORT.

The following is the report of M. H. Thompson, retiring secretary, for the year ending December 10, 1879:

To balance on hand from last year	\$ 3 04
To cash for report	25
June 11, to cash of R. M. Patrick, Treasurer.....	75 50
	<hr/> \$78 79

CONTRA.

June 11, by cash paid for printing reports.....	\$60 00
June 11, by sundry items, printing, express, telegrams, etc.....	3 40
Cash on hand to balance.....	15 39
	<hr/> \$78 79

Marengo, Ill., Dec. 11, 1879.

REPORT OF COMMITTEE ON LEGISLATION.

The following report of the committee on legislation was handed to the secretary since the meeting of the association:

Dr. Joseph Trift, President of the Illinois State Dairymen's Association:

SIR: The committee of your association, charged with the duty of presenting to the legislature the interests of the dairy industry, for the purpose of obtaining such aid from the state as its necessities demand, would respectfully report that in the month of March last they went to Springfield and presented to a committee of both branches of the legislature the following statement:

First, The importance of the dairy industry.

The following statement will show the magnitude and value of this branch of industry in the State of Illinois:

From the census returns of 1870 (last actual data) it appears that the number of milch cows then in the State was 640,321. Estimating the increase at 25 per cent. during the last eight years (and this increase in number is not equal to the increase in the dairy product during that time), and we now have 840,421 cows in this State. We adopt 800,000 as the basis of our estimate.

Without taking into account the men and horses required for distributing milk to families in our cities, and the men engaged in the manufacture of butter and cheese, we find that it requires the labor and care of at least one man for every twenty cows, a span of horses for every thirty cows, and about four acres of land for the support of one cow; so that 800,000 cows require the care and labor of 40,000 men, the work of 60,000 horses, and the product of 3,200,000 acres of land.

VALUE OF COWS, HORSES AND LANDS.

800,000 cows, at \$30 each.....	\$24,000,000
60,000 horses, at \$80 each	4,800,000
3,200,000 acres of land at, \$30.....	96,000,000
Total value.....	<hr/> \$124,800,000

FEEDING.

It is understood by the dairymen of Illinois that the quantity and quality of the feed (other things being equal) is the measure of the quantity and quality of the milk of the cow, and so they have adopted a liberal system of feeding. Eight quarts of oat and corn meal mixed, fed daily for 240 days in the year, and, in addition, one-quarter ton of bran and two tons of hay to each cow (or feed equivalent to it), would not be above the average feed for cows in the dairy district.

Here we have the startling fact that the annual loss on milk sugar in this country, if valued at one-fourth the lowest New York market quotations, amounts to more than double the value of the entire sugar crop of the Island of Cuba.

Fourth. Your committee further stated that while our creamery butter, when first made, is of superior quality and flavor, and, therefore commanded the highest market price, we have already learned from experience that it is very soon off flavor, and unless marketed and used within a limited time it deteriorates in value. For this reason it must necessarily be confined to home markets, as it is not safe to ship it abroad with the expectation that it will retain its flavor so as to compare favorably with the best shipping grades of butter that may be found in the London markets.—*Willard's D. H.*, pp. 340, 341, 342.

From all these analyses it appears that all, or nearly all, of the milk sugar is "run off" in the buttermilk and whey, and lost.

In manufacturing butter and cheese 59 per cent. of the milk product is used, and 41 per cent is consumed in families—as stated in "Willard's Dairy Husbandry," page 20.

Chemical tests show 4 pounds of butter in 100 pounds of good milk; but as there is some loss in churning, we estimate that it will require an average of at least 27 pounds of milk to produce one pound of butter.

From the department of agriculture report for 1877, p. 343, it appears that we make 1,000,000,000 pounds of butter annually, requiring for its product 27,000,000 pounds of milk.

It requires an average of 9½ pounds of milk to produce one pound of cheese.—*Willard's D. H.*, pp. 524, 525, 526, 527.

The department of agriculture, in their report for 1877, p. 343, place the annual product of cheese at 500,000,000 pounds, requiring for its production 2,950,000,000 pounds of milk. The milk used in manufacturing butter and cheese contains 1,272 875,000 pounds of milk sugar. From this deduct for amount in the butter, 7,000,000, which leaves 1,265,875,000 run off annually in the buttermilk and whey.

Fifth. Your committee further stated that, while it is true that the dairy farmers feed their milk cows corn meal, oat meal and bran in liberal quantities; and while it is admitted that this is the best food for producing a superior quality of milk, the truth is that the cheese we produce does not rank as in good quality or bring as high prices as cheese produced in other countries, even while the analysis shows them to be as rich in butter, and that, therefore, there is no legitimate reason for that difference in quality.

In view of these facts, your committee feel justified in asking the legislature to appropriate a sum sufficient to enable the Illinois State Dairymen's Association to establish an experimental station for the purpose of ascertaining, by actual tests,

1st. How to improve the keeping quality of our creamery butter, so that it may be transported, with its flavor unimpaired, to the best markets of the world.

2d. How we can improve the quality of our cheese, so that it will sell at as high prices in the English markets as cheese produced in other countries.

3d. To ascertain the best method of saving the sugar of milk which is now run off into the buttermilk and whey.

In conducting such a station it seemed desirable to ascertain, as far as practicable, the best and most reliable breeds of milch cows—or those best adapted to the American system of dairying.

While the legislature of this State makes liberal appropriations of the agricultural and horticultural societies, and regularly appropriates about \$12,000 per annum for county fairs, we regret to state that though they could not controvert the arguments, and were surprised to learn the facts, and could not but recognize the needs of the dairy industry, they did not feel justified in making the appropriation. The whole thing was so new to them as almost to take them by surprise.

The experiences of the dairy farmer during the year now drawing to a close have been such as to show the absolute necessity of making more strenuous efforts in this direction, if they are to continue in this business.

At the request of the committee, C. H. Larkin and J. R. McLean accompanied them to Springfield, and, therefore, join in this report.

G. P. LORD,
M. H. THOMPSON,
JOSEPH TEEFT,
C. H. LARKIN,
JOHN R. MCLEAN,
Committee.

JUDGES' REPORT.

The following tables show the number of points credited to each exhibitor of butter, for the different premiums, offered at the sixth annual meeting of the Illinois State Dairymen's Association, held at Marengo in December, 1879. Instead of the exhibitor's name, his number is given. This will enable each one to see in just what particular his butter failed, or was perfect:

BOARD OF TRADE SWEEPSTAKES PREMIUM.

[Owing to some oversight the report on the other numbers entered for this premium was not handed to the secretary.]

Entry No.	Flavor.	Make.	Texture.	Keeping.	Color.	Salt.	*Total.
133.....	8	8%	9%	7%	4	5	42%
31.....	8%	8%	9%	8%	4	4%	43%
44.....	9%	9%	9%	9%	5	5	48%
112.....	8%	9%	9%	9	4%	5	46%
36.....	9	9	9%	8%	4%	4%	45
116.....	8%	9	8%	8	4%	5	43
115.....	8%	9%	9%	9%	4%	5	46%
120.....	9	9	8%	8%	4%	4%	44
118.....	8%	8%	8%	7%	5	4%	42%
145.....	9	9%	9%	9%	4%	5	47%
42.....	9	9%	9%	10	5	4	40%

HIGGIN SALT COMPANY'S PREMIUM.

Entry No.	Flavor.	Make.	Texture.	Keeping.	Color.	Salt.	Total.
129.....	8%	8%	8	7%	4%	4%	41%
26.....	8	8%	7%	8%	4%	4	41%
125.....	9	9	8%	8%	5	3%	43%
2.....	8%	8%	8	8%	5	4%	42%
48.....	8%	9	9%	8%	4%	4%	44
22.....	8%	9%	9%	8%	4%	4%	45
152.....	7%	8%	8%	8%	4%	2%	40
27.....	7%	8%	8	7%	4%	4%	41
143.....	9%	7%	9%	8%	4%	4%	44
42.....	8%	8	8%	8%	4%	4%	43%
173.....	8%	8%	8%	8%	4%	4%	42%
44.....	9	9%	9%	9%	4%	5	47
66.....	7%	8%	8	8	4%	4%	40%
10.....	8%	9%	9%	8%	4%	4%	45%
63.....	8%	9%	9	8%	4%	4%	45
40.....	9%	8	8	8	4	3%	41
59.....	7%	8	7%	7%	4	4%	30%
90.....	9	9	8%	8	3%	3%	42
119.....	9	8%	8%	8%	4%	5	42%
93.....	8%	8%	7%	7%	4%	5	42
30.....	9%	8%	9	8	4%	5	42%
95.....	8%	9	9	8%	4%	5	44
114.....	8	7%	8%	8%	4%	5	42%
97.....	9%	9%	9%	9	4%	5	46%
117.....	8	8%	8	8	5	4	41%
108.....	8%	8	8	7%	4	4%	40%
123.....	8%	8%	8	7%	4	4%	40%
104.....	9%	8%	8%	8%	5	4%	43%
34.....	8	7%	7%	7%	4%	4%	39%
100.....	8%	7%	7%	7%	4%	4%	40%
111.....	9	9%	9%	8%	5	5	46%
18.....	9%	9%	9%	8%	5	5	47
86.....	9%	9%	9%	9%	5	4%	47%
37.....	7%	8%	7%	8	4%	4%	41
82.....	7%	8%	8	7%	5	4%	41%
14.....	6	7	7%	7%	4%	4%	36%
79.....	8%	8%	8%	7%	4%	4%	42%
139.....	8%	8%	8%	7%	5	4%	42
76.....	8%	9%	9%	9	4%	5	46%
105.....	9%	9%	9	9	4%	4%	46%
56.....	8	8%	8	8	4%	4%	41%
137.....	8	8%	8%	8	4	5	42
132.....	9%	9%	9	8	4%	4%	45

*Scale of points—flavor, 10; make, 10; texture, 10; keeping, 10; color, 5; salt, 5—50.

ASITON'S SALT COMPANY'S PREMIUMS.

Entry No.	Flavor.	Make.	Texture.	Keeping.	Color.	Salt.	Total.
47.....	6½	6½	7½	6½	4	3½	35
131.....	6½	6	6½	4	2½	4½	30½
61.....	6½	8½	8	7½	4½	4½	39½
113.....	7	6½	6½	5½	4	4	38
51.....	6½	7½	8	6½	4½	3½	38½
33.....	8½	8½	8	8½	4½	4½	42½
65.....	6	5½	5½	5	4	4	29½
121.....	6½	6	5½	5½	3½	4	30½
69.....	9	8½	9	7½	4½	5	45½
107.....	7½	8	7½	7½	4½	4½	39½
55.....	8½	8	7½	7½	4½	4½	40½
49.....	7½	7½	7½	7	4½	4½	38½
73.....	8	8½	9	8	5	4½	43½
103.....	7½	7½	6½	7	4	4	36½
75.....	8	8½	8½	8½	4½	4½	42½
45.....	9	8	9½	8½	4½	4½	44½
81.....	8½	8	8½	8	4½	4½	42
89.....	8½	8½	8½	7½	4½	4½	41½
85.....	9	9	9½	8½	5	4½	45
39.....	8½	8	8	8	4	4½	42
141.....	7	8	7½	7	4½	4½	38½
146.....	9	9½	9½	9	4½	4	45½
13.....	9	9	9	8½	4½	4½	44½
9.....	9½	8½	9½	8½	4½	4½	45
17.....	8½	8½	8½	9	4½	4	44½
21.....	9½	9½	9	8½	4½	4½	45
25.....	7½	8½	8	7½	4½	4	40½
1.....	9½	9	9	8½	4½	4½	44½

STANDARD QUANTITY AND QUALITY OF MILK.⁴

QUANTITY.—Borden's standard—of eight and five-eighths pounds per gallon—is now taken and accepted as the standard for milk, not only in our own country, but in all Europe..

QUALITY.—The executive committee of the State Dairymen's Association, after many experiments carefully made, have decided that hereafter the following shall be considered by them as the standard quality of milk in Illinois: Water, 87.5; solids, 12.5—in a scale of 100 parts.

ILLINOIS WOOL GROWERS' ASSOCIATION.

STATE FAIR GROUNDS, }
 SPRINGFIELD, October 1, 1879. }

Illinois Wool Growers' Association in regular annual meeting, called to order by president A. M. Garland, at 8 o'clock p. m.

Report of meeting of 1878, read and approved.

This being the year for the election of officers for two years, the election was the first business in order.

Hon. A. M. Garland being nominated was unanimously elected president.

V. P. Richmond was re-elected secretary and treasurer.

VICE PRESIDENTS.

- 1st district—Daniel Kelley, Wheaton, DuPage county.
- 2d " H. D. Emery, Chicago, Cook county.
- 3rd " ————
- 4th " George E. Peck, Geneva, Kane county.
- 5th " J. L. Moore, Polo, Ogle county.
- 6th " W. H. Van Epps, Jr., Dixon, Lee county.
- 7th " T. L. Miller, Beecher, Will county.
- 8th " F. E. Day, Streator, LaSalle county.
- 9th " Adam Oliver, Elmira, Stark county.
- 10th " Graham Lee, Hamlet, Mercer county.
- 11th " Robert M. Bell, Brighton, Macoupin county.
- 12th " J. R. Megginson, Jacksonville, Morgan county.
- 13th " Thomas Taylor, Waynesville, DeWitt county.
- 14th " J. S. Brown, Decatur, Macon county.
- 15th " John Turner, Todd's Prairie, Shelby county.
- 16th " O. B. Nichols, Carlyle, Clinton county.
- 17th " James M. Scott, Belleville, St. Clair county.
- 18th " R. L. Robertson, Sparta, Randolph county.
- 19th " Joseph Skeavington, Albion, Edwards county.

F. E. Day moved that the money paid by the State Board of Agriculture for French Merino and Silesian sheep be paid to the American Merino. After some discussion the motion was referred to a committee to report to-morrow evening. Committee appointed as follows: F. E. Day, T. C. Lippett and Thomas Taylor.

The importance of establishing a scale of points by which judges and others might form better opinions on the different families of sheep, was discussed at considerable length, and, on motion, the following committees were appointed, and required to report to-morrow evening.

On Merinos, Messrs. F. E. Day, T. C. Lippett and Thomas Taylor.

On Downs, Messrs. V. P. Richmond, James Cotton, and Samuel E. Prather.

On Long Wools, Messrs. C. F. Mills, W. M. Scott, and J. R. Megginson.

Later in the evening there was some very interesting discussion on purity of breeds of sheep and the necessity of breeding pure blood in all animals. As usual, the advocates of pure blood had the best of the argument.

Mr. Megginson showed a sample of wool from a 14 months Cotswold lamb, very fine and glossy, and 21 inches in length.

That is right, gentlemen, bring on your samples at the next Wool-grower's meeting, and show Mr. Megginson that he has initiated a good work.

Adjourned to meet at 7:30 o'clock to-morrow, Thursday evening, at the same place.

OCTOBER 2d, 1879.

Illinois Wool Growers' Association was called to order by President Garland.

The call for payment of dues was fully responded to.

The report of committee on "Points of Excellence" submitted the following report for

LONG WOOLS.

Illinois Wool Breeders' Association:

Your committee, to whom was referred the matter of preparing rules for the guidance of judges of long wool sheep at fairs, would beg leave to report that the following essential points should largely influence committees in making awards:

- 1st—Constitution.
- 2d—Wool, quality and quantity.
- 3d—Lustre and uniformity of fleece.
- 4th—Covering of head, legs, belly, etc.
- 5th—Carcase, best distribution of mutton in the most valuable portions of carcass.
- 6th—Care and management, as indicated by healthy breeding condition.

The standard of excellence of the American Cotswold Association is recommended for the guidance of the committee judging Cotswold sheep, with the substitution of the word wool for hair, on the covering of the ear.

CHARLES F. MILLS,
J. R. MEGGINSON
Committee.

Committee on "Points of Excellence" of

AMERICAN MERINOS,

submitted the following:

Points of Excellence for American Merino sheep, one hundred denoting perfection:

1—Blood—Thorough bred—i. e. purely bred, from one or more of the direct importations of Merino sheep, from Spain, prior to the year 1812, without the admixture of any other blood.

15—Constitution—Indicated by form of body; deep and large breast cavity, broad back, heavy quarters, with muscular development forming capacious abdomen. Skin thick, but soft, of fine texture, and pink color; expansive nostril, brilliant eyes, healthful countenance and good size, age considered.

7—Size—In fair condition, with fleece of twelve months' growth; full grown rams should weigh not less than 165 pounds, and ewes not less than 120 pounds.

3—General appearance—Good carriage, bold style, elastic movement, showing in particular parts as well as general outline, symmetry of form.

8—Form—Body—Throughout heavy bones, well proportioned in length, smooth joints, ribs starting horizontally from backbone, and well rounded to the breastbone, which should be wide, strong and prominent in front; strong backbone, straight and well proportioned as to length. Heavy, muscular quarter, deep through and squarely formed behind and before, with shoulders well set on, neither projecting sharply above the backbone, nor standing so wide and flat as to incur liability to slip shoulders.

10—Folds and Wrinkles—Folds on the ram should be larger than on the ewe. Large and pendulous folds from the chin or jaws succeeding each other down the neck to the brisket, ending with large folds or "aprons," and extending up the sides of the neck, but lighter if at all extending over top of neck, two or three behind the fore leg or shoulder, one on front of hind leg, hanging well down across the flank, two or more on rear of hind legs or quarters, extending upward towards the tail, with one or two on or around the tail, giving the animal a square appearance on the hind quarters, and straight down as may be from the end of the tail to hock joints and hind feet. In addition to folds, small wrinkles over the body and belly are desirable, as forming compactness or fleece, but not large enough to be apparent on the surface of grown fleece, or to cause a jar in its quality, thus leaving the body of the fleece even in quality and free from the jar of large folds over the body.

6—Head—Wide between the ears and behind the eyes, and across the nose; short from top of head to tip of nose; face straight, eyes clear and prominent; ears thick, medium size, and, together with the face, nose and lips, white, covered with soft fur or downy wool. Ewes should give no appearance of horns; while upon rams the horns should be clear in color, symmetrically curved, without tendency to press upon the sides of the head or to extreme expansion.

5—Neck—Medium length, good bone and muscular development, and especially with the rams, heavier toward the shoulders, well set high up, and rising from that point to the back of the head.

5—Legs and Feet—Legs medium or short in length, straight and set well apart forward and back, heavy bone, smooth joints, with large muscular development of the fore-arm; thick, heavy thighs, wide down to hock joints, and from knee joints downward covered with short wool, or the soft furry covering peculiar to the ears and face; hoofs well shaped and of clear color.

FLEECE.

15—Covering—Tendency to hair and gare upon any part of the sheep is to be avoided. evenness of fleece in length, quality density, lustre, crimp, trueness, strength and elasticity, covering the entire body, belly, and legs to the knees; head well covered forward, squarely to a line in front of the eyes; well filled between the eyes and ears or horns, and well upon the cheeks; muzzle clear, with small opening up to and around the eyes. Scrotum of rams covered with wool free from tendency to hair.

5—Quality—Medium, but such as is known in our markets as fine delaine and fine clothing wool, distinctly better in quality, lustre, crimp and elasticity, than the wools of same length grown upon the common grade sheep.

10—Density—Shown by the compactness of the fleece, throughout which should open free, but close, showing very little of the skin at any point, even at the extremities.

5—Length—At one year's growth, not less than two and one-half inches, and as near as may be uniform in length to the extremities of the fleece.

5—Oil—Evenly distributed; soft and flowing freely from skin to surface; medium in quantity.

F. E. DAY,
T. C. LIPPETT,
THOMAS TAYLOR,
Committee.

POINTS OF EXCELLENCE FOR DOWNS.

Chairman of committee on "Points of Excellence," for Downs made report as follows: Finding the time too short as there has been nothing heretofore done in that line to work up a scale of points for the Downs sheep, we respectfully ask an extension of time to the 15th day of December, prox., when a report will be placed in the hands of President Garland, to lay before the State Board of Agriculture, at their January meeting

V. P. RICHMOND,
JAMES COTTON,
SAMUEL E. PRATHER,
Committee.

Report accepted by the Association.

Following is the report of the committee on

POINTS OF EXCELLENCE FOR THE DOWNS.

10—Blood—Purely bred from one or more of direct importation from Great Britain.

*25—Constitution and quality—Indicated by the form of body; deep and large in breast and through the heart; back wide and straight, and well covered with lean meat or muscle; wide and full in thigh; deep in flank; skin pink in color and soft; prominent eyes and healthful countenance.

10—Size—In fair condition, when fully matured. Rams should weigh not less than 200 lbs., and Ewes not less than 170 lbs.

10—General appearance and character—Good carriage; head well up; elastic movement, showing great symmetry of form, and uniformity of character throughout.

10—Body—Well proportioned; small bones; great scale and length; well finished hind quarters; thick back and loins; standing well placed outside; breast, wide and prominent in front.

10—Head—Short and broad; wide between ears and covered with wool; color dark grey; light muzzle not objectionable; ears short.

5—Neck—Short and heavy, especially toward shoulders.

10—Covering—Body, belly, head and legs well covered with fleece, even length and quality; scrotum of rams also well covered.

5—Legs and feet—Short, and well set apart; color dark grey, and woolled to the hoof, which must be well shaped.

5—Quality of wool—Medium, such as is known in market as half combing wool.

V. P. RICHMOND,
JAMES COTTON,
SAMUEL E. PRATHER,
Committee.

Committee on Classification submitted the annexed report for

FINE WOOLS:

Your committee appointed to consider the classification of Fine Wool sheep at the Illinois State Fair, beg leave to report,

That we recommend a lot for pure bred American Merinos, bred for the production of wool known in commerce as clothing wools.

That another lot be made for all pure bred Merinos, bearing wool known in commerce as Delaine wools.

That but one sweepstakes lot be made, this to include pure bred Merinos of all varieties, and the amount of money now offered in the two sweepstakes lots on fine wools be combined in the one lot substituted therefor.

F. E. DAY,
T. C. LIPPETT,
THOMAS TAYLOR,
Committee.

A motion to ask the State Board to offer premiums on fleeces of wool to be exhibited at the Fair of 1880 was passed unanimously, and many expressions in favor of the movement were given and a desire expressed to see such exhibition.

A motion appointing C. F. Mills, F. E. Day and Thomas Taylor was passed requiring them to bring before the State Board at the January meeting all reports and motions passed by the Illinois Wool Growers' Association, at this meeting. Committee requested President Garland be considered one of the committee.

Motion to adjourn to meet on Wednesday evening, 7:30 o'clock p. m. of the next State Fair week, at President's office on the Fair Grounds. Adopted.

A. M. GARLAND,
President.

V. P. RICHMOND,
Secretary.

ILLINOIS SWINE BREEDERS' ASSOCIATION.

ANNUAL MEETING, 1879.

STATE FAIR GROUNDS,
SPRINGFIELD, September 30, 1879. }

The Illinois Swine Breeders Association met in regular annual session in the Secretary's office on the fair ground.

Called to order by the President, Charles F. Mills.

Minutes of previous meeting read and adopted.

President congratulated the members of the association upon the healthy condition of hogs throughout the state, and the encouraging prospects for better prices for hog products than realized the preceding season.

From the most reliable reports the loss of hogs by disease the present season will be about one-third less than that of 1878.

The unfavorable condition of the markets of late years has compelled many breeders and feeders of swine to abandon the business, and the result will be a limited number of hogs marketed in 1879 from this State when compared with the number slaughtered the past two years.

The increasing foreign and domestic meat trade is such as to inspire confidence in the future of the breeder and feeder, not only of swine, but all kinds of meat producing animals.

The unusually large acreage of good corn this year, and the confidence of packers in the future markets will insure better prices for the hog crop of this season, which should be put in the very best possible condition for market.

The farmers of this State have it in their power to add thousands of dollars annually to their revenues by carefully studying the demands of the trade and feeding animals suited to the wants of packers—animals that have made all possible growth from date of farrow.

The profit attending the early maturity of swine has not received the attention its importance demands, and the saving in feed, as well as the increased price of well fattened hogs under one year of age, would be no inconsiderable item of revenue to the feeder.

The attention paid to improving the quality of hogs is increasing each year, and packers liberally reward such feeders with better prices.

There is always a "top price" in the markets, even during the dull seasons, and to ship hogs that will command the best prices should be the ambition of every feeder.

It is not my intention to make any lengthy talk, or to make any suggestions to many present who have been successfully engaged in breeding and feeding swine for half a century, but I cannot neglect the opportunity of impressing upon all the necessity of a better system of feeding which will ensure more pounds of pork to each bushel of corn fed than has heretofore been realized by the majority of Illinois farmers.

The swine breeders of this State have established an enviable reputation not only as feeders but as breeders of the various improved breeds of swine, and only an acquaintance with the great majority of the exhibitors and members of the Illinois Swine Breeders Association is necessary to convince any man that there is an earnest determination to bring our thoroughbred breeds of swine up to a still higher standard of perfection and that no pains will be spared to improve breeds noted for early maturity and quality of product.

The Fat Stock Shows have demonstrated the fact that the improved breeds of swine can be fed so as to make a gain of over one pound per day for the first year from date of farrow, and several instances are on record where hogs under eight months of age have reached over 300 pounds in weight showing an average gain per day of nearly one and one-half pounds.

The spirit of emulation among breeders and feeders of the improved breeds of swine will insure even better results in the near future, as the better modes of feeding are more generally adopted.

The meeting of the Association is open for the transaction of business and I can assure the gentlemen present that the members of the State Board of Agriculture will, as in the past, be pleased to receive any suggestions that will promote the interests of swine breeders throughout the State.

There are several interesting papers to be read and the expedition of the regular business of the Association will give more time for the discussion of these papers.

On motion,

The Association proceeded to the election of officers for the ensuing year, with the following result:

President—Charles F. Mills, Springfield.

Secretary—A. J. Lovejoy, Roscoe.

Treasurer—B. F. Dorsey, Perry.

EXECUTIVE COMMITTEE.

Charles F. Mills, Springfield; E. W. Bryant, Princeton; H. C. Castle, Wilmington; John Francis, New Lenox; Caleb Letton, Jacksonville; Ezra Stetson, Neponset.

VICE-PRESIDENTS.

1st district—	John Wentworth.....	Chicago.
2d “	C. M. Culbertson.....	Chicago.
3d “	A. Z. Blodgett.....	Waukegan.
4th “	W. W. Ellsworth.....	Woodstock.
5th “	A. J. Countryman.....	Rochelle.

6th district—	E. W. Bryant.....	Princeton.
7th	“ Charles Snoad.....	Joliet.
8th	“ H. C. Castle.....	Wilmington.
9th	“ John H. Anthony.....	West Jersey.
10th	“ A. P. Petrie.....	New Windsor.
11th	“ B. F. Dorsey.....	Perry.
12th	“ J. W. Boston.....	Jacksonville.
13th	“ W. M. Smith.....	Lexington.
14th	“ A. J. Alexander.....	Charleston.
15th	“ E. H. Bishop.....	Effingham.
16th	“ J. T. Buchanan.....	Mulberry Grove.
17th	“ David Gore.....	Carlinville.
18th	“ A. M. Brown.....	Villa Ridge.
19th	“ E. S. Wilson.....	Olney.

On motion of Mr. Dorsey,

The President appointed Messrs. B. F. Dorsey, A. J. Lovejoy and H. C. Castle a committee to confer with the State Board of Agriculture in reference to the construction of pens provided for exhibiting swine at the Springfield Fair Grounds.

The discussion of the motion developed the fact that the roofs of the pens did not extend far enough to shelter the hogs from the sun and that visitors were compelled to stand in the sun or be exposed to rain while examining the stock on exhibition much to the discomfort of all concerned.

The question of what constitutes a pure breed of swine was discussed at length and the best course to be pursued in recommending the several new breeds for recognition in the State Fair premium list.

The exhibitors of several new breeds of swine were given an opportunity to present the merits of their respective breeds.

On motion,

E. W. Bryant, W. M. Holmes and T. Taylor were appointed a committee to confer with the State Board of Agriculture and suggest a separate lot in the premium list where the several new breeds might be exhibited.

On motion,

The executive committee were authorized to prepare a programme for the next annual meeting of the Association.

The following resolution was adopted:

Resolved, That the thanks of the Illinois Swine Breeders' Association are due and hereby tendered to the Illinois State Board of Agriculture for the substantial service rendered this organization and the swine breeders and feeders of the State in the publication of the papers and proceedings of meetings in the annual report of the Board.

On motion,

The Secretary was instructed to present the minutes and papers of this meeting to the Secretary of the State Board of Agriculture, and request the publication of the same in the next annual report.

On motion,

Adjourned until 8 o'clock p. m. to-morrow.

WEDNESDAY, 8 o'clock p. m., October 1, 1879.

Association met as per adjournment.

Called to order by President Mills.

On motion,

The reading of papers and discussion thereof was made the special order.

The following papers were then read:

HOW TO MAKE THE HOG PAY BEST.

Paper read by Ezra Stetson, M. D., Neponset, Ill., at the annual meeting of the Illinois Swine Breeders' Association, Springfield, October 1, 1879.

The hog is the only one of our domestic animals which is reared and fattened solely for its flesh as an article of diet. We have no means of arriving at the time when subjugated by man. Its bones are found in the shell heaps or 'kitchen middens' of Europe and in close proximity to the 'lake dwellers' of Switzerland. Naturalists have given the name of *Sus Serrafa* to the wild hog of Europe, Africa and the western portion of Asia, and for a long period this was supposed to be the parent of existing races or breeds of swine.

Recently Nathusius, a German naturalist, has placed the hog of Eastern Asia in a distinct group, under the name of *Sus Indicus*. Whether this is a distinct variety or not it is nothing but a hog and readily crosses with the *Sus Serrafa*. These crosses of the hogs of China and Siam with the hogs of Europe have revolutionized the whole of hogdom and given them an aptitude to fatten that they did not and could not possess before the introduction of this blood. At this day hogs take on flesh and fat in proportion to the admixture of this blood. Just how much or how little is the great question about which the champions of the rival breeds are now squealing. On one point all breeders are agreed, and that is that the hog is the most liable to reversion or breeding back, of any of our domestic animals. As the hog is now bred there is but a very small proportion of the blood of the *Sus Indicus* in its veins and reversion to the *Sus Serrafa* the natural tendency. The breeds of hogs claiming relationship to the Neapolitan hog without hair or bristles, are very likely to revert to this type. Temperament or disposition to be contented with its surroundings, has much to do with any animal as a meat producer. Now hogs have dispositions as well as bipeds, and some breeds have very much more spirit than others. All of us have heard an approximation to the 'whoosh' of the wild boars and the greater the 'whoosh' the nearer the approach to the wild boar in disposition and habits.

A restless or unquiet hog is the most unprofitable of his kind and is a constant reminder of the herd that once perished in the sea. Sometimes it would seem that a part of that herd might have escaped and the devils multiplied in their descendants. As swine are only raised for the sake of their flesh and fat, it is very proper to consider this subject in relation to its healthfulness as an article of human diet as well as on the score of economy. Swine flesh is used by all nations and peoples on this globe where it can be obtained with a very small per centage who refrain from its use, simply because it is forbidden by their ecclesiastical law. All physiologists are agreed that man is an omnivorous animal and that flesh as well as fruits and grain are necessary to a healthy existence. If a sound mind in a sound body is the greatest blessing we enjoy in this world, we cannot reasonably expect either unless the body is properly nourished. To keep or preserve this state of health animal food of some kind is necessary to preserve the equilibrium between the waste and supply. One can hardly imagine how our ancestors lived and propagated their kind without the aid of the chemist to tell them just how much flesh-forming, fat-forming and all the ecceteras were to be found in their daily rations, provided always they were able to obtain those rations. As swine's flesh has been an article of human diet so long that the written memory of man, running back so many centuries, has not been able to tell its first introduction, can we find any good and sufficient reason why its use should be condemned at the present day? Just look at our own country and see how the forests of the new world were cleared away and fitted for the substitution of modern civilization. The hog played no unimportant agent in the labors of the sturdy yeoman of pioneer life.

With his salt pork as the staff of life he was able to do more hard work in a given time than his pusillanimous descendants with their tea and toast with a few shell fish as brain fodder. On what did our hardy pioneers of the Great West subsist that they grew so great and tall? Hog and hominy. Kentucky has produced more great men on this diet than any other portion of the globe of the same size, not even excepting the Highlander with his oat meal porridge. No more hearty article of diet can be found than a well-cooked rasher of bacon, and were this diet more generally used it would save many doctor bills as well as being much more economical. It was a very common expression in pioneer life when sickness broke out in some unthrifty family, that it was caused by the bottom of their pork barrel having fallen out. I myself have seen pork barrels said to have been twenty or thirty years old that have not in all that time been entirely empty; and no mark of shittleness was in those days more usually commented upon as that a certain family were out of pork. How often have I seen the honest son of toil returning to his family in the evening with his wages of the day, good salt pork slung over his back. That man was a Christian in those days, and made glad the stomach of his wife and little ones. Even the pork barrel was a temptation to those to lazy too work, and the pork barrel had to be watched against the depredations of the night prowler. Half a century ago that most painful of all diseases, *Neurasthica*, was an unnamed if not an unknown disease. It was long known as the *tic*, and then, like the gout, was confined to the so-called aristocracy. That the disease is caused by malnutrition will be disputed by no one with any pretensions to medical acumen. I do not wish it understood that the absence of pork in our diet has made this disease so alarmingly prevalent,

but simply wish to enquire why did not our ancestors suffer in like manner with this disease. The same sun shines upon us; we breathe the same atmosphere; but all will admit that our diet has very much changed. I propose at this time of my life to enter into disputation with no one, but do wish to call the attention of the present generation to the fact that we might as well live by faith as by chemistry. It is not the quality of food taken into the stomach that nourishes the body, but the quantity digested.

Trichinæ? Trichinæ? Hogs are filled with this terrible parasite, and woe is me if terrible things get into my stomach! It is true, that the microscope shows this parasite in a small percentage in the flesh of swine, as well as in the flesh of other animals used for food. The eating of raw, or uncooked flesh, is not safe, under any circumstances. Fates also prove that in cooking, even below the boiling point, this parasite is effectually cooked, and is attended with no more danger than eating cheese or figs. "Strain at the gnat and swallow the camel," is practiced at this day, as well as in the olden time. Thousands and tens of thousands perish annually from over-doses of other food than pork. It is the fashion to gormandize the sweets of the world and drink from the worm of the still. No animal food can be served so cheaply as pork, and none more nutritious and wholesome, when properly cooked. It may not be so toothsome as some other meats, but we have all heard and doubtless remember, that "hunger is the best sauce." I very well remember two meals, that have made the most lasting impression upon my memory, and they were eaten more than half a century since. The chief ingredient of both these meals was pork. One was prepared by an old darkey, "Auntie," brought up in a French family from one of the West India Islands. Sausage made the very day the hogs were slaughtered, was to the unprejudiced palate, the best that ever entered my mouth. The other occasion was when fishing through the ice, when my partner in the sport returned from his father's kitchen with the lunch-pail well filled with boiled pork and vegetables. I was so hungry! And the taste of that pork still lingers in my mouth.

I fear that in this land of plenty, we do not appreciate the bounties of the Giver of all good; and when I say that the sun does not shine upon any other part of the globe where food is so abundant, and so little appreciated, as in the United States, I am not exaggerating. From the foregoing conclusions, I am prepared to say that to make the hog pay best, is to kill him and eat him.

Paper prepared by N. H. Paaren, M. D. V. S., of Chicago, to be read at the Illinois Swine Breeders' Association at its annual meeting at Springfield, Illinois, October 1st, 1879:

A short paper on the hygienic management of swine being asked for, do not expect a learned harangue, as it is my intention only in an off-hand way to remind owners and breeders of swine that proper housing, healthy diet, and ordinary attention to sanitary management, constitute the means whereby, in a great measure, the animals are enabled to resist disease. With the exception of accidental injuries, most of the prevailing ailments of our domestic animals are due to some fault in their management and keep. It is the unwholesome belief that anything is good enough for swine, that so much has degraded our sheds and pens, and frequently extended its influence even to the houses of the owners. The result has as we know, been severely returned to the owners in the shape of discomfort, disorder and loss. A good authority has said, "Whatever thy hand findeth to do, do it with all thy might." We are too apt to attend to that in the sense of "make as much money as you possibly can," but the meaning is plainly this—"Do what you do as well as you can." If we well carried out this, every man would find out that his business rose in his estimation. This rule would tell him that his farm should be managed with all the skill that our experience and knowledge of nature shows us to be possible and that his live stock should be kept with the same scrupulous care.

None are prouder of their productions, their crops, and their stock than our farmers, it is true; but their neglect of sanitary matters is rapidly productive of evil and destructive of their property; whilst health is a subject daily demanding their attention, as they must to a great extent, be physicians to the whole of their live stock. Although the knowledge of the great value of cleanliness has come to light at various times, it probably never was so much appreciated among our farmers as it is now. We know that the air contains much putrid matter, or organic matter capable of putrefaction; but we cannot smell it always. The strongest smells are not the most dangerous, and the most dangerous may have no smell at all. The administration of fresh air is an old fashioned virtue which will never cease to be right. If the same care and attention were bestowed upon the hogs that the farmer bestows on his other live stock, we should hear of less losses from disease. Wet and filth never were conducive to health in any living being, why should it then be so to the hog? The hog of to-day is not the hog of fifty or a hundred years ago, and he has not the strong constitution of his far-off progenitors; for the improvements made in the various breeds of hogs have resulted in materially encroaching on their vital energies and strength. Therefore the evils resulting from careless management are the more apparent.

One great fault in the management is to keep too many hogs together in one shed or enclosure. From want of proper protection in the way of housing, hogs are very apt to crowd together in bunches during cold weather, and coming into the sheds wet and dirty, and being obliged to lie either on old and filthy straw bedding or on a wet and damp floor, their sweating and steaming soon produces a foul atmosphere, and the bedding not being removed at proper intervals gets rotten and adds to the contamination of the air.

Being thus packed together in the building, the hogs, in a warm and perspiring condition, are next exposed to the influence of cold winds and wet, by being turned out in the morning hours to run in the field among grass wet with cold dew or from rains or hoar-frost, or to be fed from troughs in the yard. Among the common consequences are congestion, cold or catarrh, and if the so-called hog cholera happens to be prevailing, they are almost certain of becoming affected with that disease, as their system under such management is rendered predisposed or susceptible thereto.

In many places the hogs are kept in miserable sheds, no provision being made for proper drainage, the ground sloping towards the sheds, which frequently being unpaved or without proper flooring, are constantly damp and wet with pools of urine and filth abounding, and with wind and sleet approaching from all quarters. In proportion as the standard of breeding has become higher so has the vital force, energy and hardness become lessened; and the effects of improper quantity and quality of food, filth and stagnant water, faulty construction of house and undue exposure to atmospheric influences have become proportionately more baneful. A proper arrangement of the pig-sty is of equal necessity for the successful breeding and fattening of swine as it is for the other species of domestic animals. But this adjunct to successful breeding and management is too frequently overlooked because of a prevailing but mistaken idea that swine are not partial to cleanliness, and therefore are less in need of it than other animals; and that they are harder than these and therefore less sensitive to the changes of temperature, etc., consequent upon improper housing. Even if we allow that the peculiar thickness of its hide makes the swine less sensitive to cold, it must be conceded that a certain uniformity of temperature is always necessary for its bodily thriving, increase and growth, and especially so where the hide has become thinner and the hairs less abundant as a consequence of a higher standard of breeding. For this reason an even temperature during the winter months is a necessity, and especially for young and growing animals. The young pigs which, at the time of birth, are almost devoid of hair are very susceptible to the influence of cold and not unfrequently do they perish from want of sufficient warmth. In cold sties it is therefore often difficult if not impossible during the winter months to rear them successfully.

Not less necessary is an even temperature and warmth of stable for older swine and such as are being fattened, because it tends to their comfort and requires less expenditure of food for the development of bodily heat, which must be so much greater the more the inner heat of the body is required to resist the effects of the lowered temperature of the surface of the body. To provide against the evil effects of cold and inclement weather during the winter months is not the only requirements of proper housing. Too great heat, during the summer months, is equally injurious and especially to animals that are undergoing the process of fattening. Thick stone or brick walls are preferable to wooden, because the temperature within these is less effected by the outer temperature. The exhalation from the bodies of the animals and the evaporation of moisture, etc., from the floor render proper ventilation a necessity. This is best effected by air-tubes leading through the ceiling and roof and by adjustable ventilators properly arranged in the lower part of the walls.

The floor of the sty should be so constructed as to facilitate cleanliness. The great amount of sloppy food consumed by the hog causes considerable fluid evacuations, which, to insure cleanliness, comfort and health requires the daily removal of solids and proper sewerage to carry off fluid excrements. A dry floor is as necessary for the health of the animals, as proper ventilation,—especially for young pigs, which often sicken and die from being kept in wet and cold sties. Want of attention to cleanliness and ventilation is a source of lousiness, etc.

Wooden flooring is objectionable, for many reasons. The moisture which is absorbed by the wood is a source of continued contamination of the air, which cannot be counteracted by any amount of ventilation. The ground underneath such floor will always be wet and filthy, besides being a abode for vermin of all kinds. A floor of cobble-stones or of brick is also objectionable, because of the absorption of moisture and filth. A smooth and even cement or concrete floor, gently sloping, and provided with proper drainage, is preferable to any other. It does not absorb any fluids, and is easily kept clean, as it only requires splashing over with water to carry off all impurities. The furrows or small gutters which carry off the fluids to the cess-pool should not be covered, because thus they would become the harbors of filth and vermin and rats. For the sake of cleanliness, the feeding-troughs ought to be made of stone, which is also more durable than wood, and is not so likely to retain disease-producing principles, or to sour the food. Where the swine are kept within limited enclosures, a wall of stone, or one of brick capped with stone flags, is preferable to a board fence, and if the animals are not allowed running in the fields, a large, well-drained yard should be provided for each sty or lot of swine. Each yard should be provided with an open reservoir of stone, concrete or brick, which should be of easy access to swine, the bottom sloping gradually to about two feet in depth, and provided with an adjustable outlet. This is intended for providing the swine with a means of washing and cooling themselves during hot weather, and is a very desirable adjunct to sanitary management. An open shed extending over the reservoir or the presence of a large shade tree would tend to keep the water cool. The water should be let out of the reservoirs every evening and fresh water pumped in every morning, especially during the hottest time of summer. Instead of keeping the swine indoors during the nights of summer, it is preferable to provide open sheds for them out doors, for which an ample extension of the roof of the sty will suffice. The emanation from the bodies of the animals, crowded together in a hot sty during summer nights, is very apt to engender miasma which may be productive of typhoid disease, swine-plague, or similar fatal diseases.

To prevent the development of such miasma it will be proper from the beginning of the warm weather and during the summer to frequently disinfect the premises with solutions of chloride of lime or carbolic acid. Proper housing and cleanliness go far towards warding off disease; but a healthy diet is as necessary to enable the animals to resist disease. To secure healthy produce, the animal should be fed on nutritious, rather than fattening diet. Access to charcoal and ashes should at all times be provided. The hog being an omnivorous animal, it will thrive best on mixed diet. Therefore, give what the farm affords in the line of animal food, such as plenty of sour milk and buttermilk. In summer the animals should have access to green food, but should not be obliged to subsist on this exclusively. In winter they should have plenty of roots and vegetables, but not such as have been spoiled by keeping. Cabbage, beets, turnips, potatoes, apples, onions, etc., sliced and mixed with dry food, alternately with slops or a liberal supply of sour milk. Steaming or cooking the food is by far preferable, giving it whole or dry, and is certainly less wasteful. Besides, this process increases the nutritive or fat-producing quality.

It has been said that the great extent of corn-feeding is one of the causes of the so-called hog cholera. I cannot coincide with this view. The disease has been prevalent among

Swine that were kept on a variety of foods and under the most varied conditions. But errors in diet are no doubt among the predisposing causes of disease, and an almost exclusive corn diet is certainly open to objections. During the prevalence of hog cholera in a neighborhood, give the swine all the sour milk they will consume, and beside, when in season, plenty of unripe or wind-fallen fruit. Let the animals satisfy the cravings of their nature to dig and root in the earth. The natural instincts of an animal are never known to lead it to seek persistently what is not congenial to its health and well-being.

I receive frequent inquiries concerning means of preventing disease among swine. The advice contained in this paper, if followed, will go farther toward preventing disease than the everlasting dosing with the vile drugs offered for sale through advertisements and glaring posters as sure preventative and cures, by unprincipled pretenders and quacks. If, during the prevalence of hog cholera in a neighborhood, a preventative is demanded, sulphuric acid is an excellent one. It may be used as follows: Take equal parts of concentrated sulphuric acid and cold water, and proportion it in such a way that hogs averaging one hundred lbs. get each fifty to sixty drops, among sloppy food or gruel. Give it morning and evening three or four days in succession; then leave off one or two days, and repeat as before.

Thus continue during the prevalence of the plague in a neighborhood or on a farm; provided that the healthy animals are removed to a place distant as far as possible in a direction against the prevailing winds from the pens and houses containing the sick ones and with no chance of access to these. It should also be remembered that the persons who attend to the sick hogs should never be allowed to come near the place where the healthy hogs are kept, as they are apt to carry the contagion with them in their clothing or on their boots. It has long been the prevailing custom to remove the sick hogs from the sound ones, leaving the latter in the pens where the disease originated. It needs very little argumentation to convince any one that this is wrong. During a number of years I have in my writings and advice to inquirers, advocated the course of removing the healthy animals, without delay as far away as the local conveniences permit, from the pens and out of the direction of the prevailing winds from the sick. I notice the same advice has been imitated by one of the members of the hog cholera commission in his report to the Commissioner of Agriculture. To go further into the subject of the so called hog cholera would be out of place in this paper. Suffice it to say that the feeding troughs, which at all times should be kept sweet and clean, as well as the floor directly under these, the walls of the piggery, the fences and the grounds, ought all during the prevalence of the plague to be disinfected every other day or at least twice a week by sprinkling them liberally with a solution of carbolic acid, alternated with a solution of chloride of lime. Instead of lime washing it is to be recommended to give the sheds, walls, fences and the troughs inside and out a liberal coating of tar every spring and fall.

THE PORK CROP—ITS SUPPLY AND DEMAND.

By C. W. Corbett, of the Farmers' Review.

Read at the annual meeting of the Illinois Swine Breeders Association, Springfield, October 1, 1879:

The theme of the world's thought and the world's talk is the agricultural resources of America. Our own press teems with estimates of production as made by the different State Boards of Agriculture and by the National Department, and with the market returns put forth by Boards of Trade in Chicago, New York, and other great commercial centers. The press of England and the continent of Europe universally bewails the sinking condition of the agricultural interest as grain and meats from American fields float into their markets at prices below the cost of production on land at their very gates. Parliaments discuss the gravity of the situation, and send commissioners here to see if this vast production of ours is an accident of season, the result of temporary fertility of a soil that is soon to be exhausted and abandoned, or whether the flood is to continue until ruin reaches the tenant farmer and the landed proprietor, uprooting social systems and revolutionizing governments. A great Continental nation lays a tribute on foreign products at the expense of its other material interest in order to bolster up the owners and tillers of the soil—a burden that falls in tender places, and may result in disaster to a monarchy that now trembles at the sight of a socialist placard, and whose ruler finds protection in bayonets, rather than in the love of his subjects. If a heifer at the Chicago stock yards suffers from ordinary lung disease, which is pronounced *pleuro pneumonia* by an excited and confused veterinarian, Great Britain makes it an excuse for prohibiting the debarkation of American cattle except at slaughtering points, and Canada, loyal to the home government, and—to her own interests—shuts her gates against the transportation of Western live stock over her sacred soil to the seaboard. If a man eats raw American hams in Spain, or Portugal or Italy, and dies from trichinosis, government proclaims that the imports of American pork products must be prohibited, instead of advising consumers that good cooking destroys the parasites, and that cooked ham is altogether preferable.

Thus every pretext is used and every means resorted to, to revivify home agricultural interests and to combat American advances. This is all very natural; and we must not complain, for self-preservation, a primal law, dictates the course. And we need not complain, for the masses of the old world will have cheap food rather than starve, in spite of parliaments and premiers.

The outlook for foreign agriculture is gloomy, indeed, but there will probably arise a solution to the difficulty. What that solution is to be, concerns them, and not the farmers of this country. The whole matter is but a new form of the question of the survival of the fittest.

Now let us see on what basis these remarks are based. Figures are not even entertaining, as one listens to the reading of them, but they are strong and eloquent to the thinking mind that studies them. Mine are not as comprehensive as they might be, nor shall I deduce from them but few of the conclusions to which they naturally lead. As we are here as swine-breeders and pork-feeders, and not as general farmers, we leave out of our further consideration, the cattle and sheep interests, as well as our bread products for shipment, and confine our researches to swine alone. About 50 per cent. of the meat production of the United States is pork. The great pork-producing states are and always will be the great corn-producing states. These are the western states, of course, and of them Illinois is chief. At the time of the last census (1870) the number of hogs in all the states was:

1870	25, 134, 569
1872	32, 632, 050
1873	30, 880, 400
1874	29, 062, 200
1875	25, 728, 800
1876	25, 077, 100
1877	32, 262, 500
1878	34, 766, 100

The corn crop in bushels was, in

1872	1, 032, 719, 000
1873	932, 274, 000
1874	850, 184, 500
1875	1, 321, 069, 000
1876	1, 283, 827, 500
1877	1, 342, 553, 000
1878	1, 372, 553, 000

In the last seven years we have sent abroad more bacon, hams, lard and pork, than we did in all the half century preceding. In 1878 this country received \$90,000,000 for its pork products. Seven-tenths of all the products sent abroad last year were the products of the hog.

We grow the largest number of swine to the 1,000 inhabitants of any country on the globe, viz: 637. Spain comes next with 263; Prussia, 178; Holland, 164; France, 159; Russia, 137; and the average of Europe is 161.

The amount of hog products follows very closely upon the amount of the corn crop. Prolific vastly beyond any other animal used for human food, our farmers knowing the amount of corn to be consumed, can turn out hogs to consume the crop, as manufacturers do machines to shell it. If Illinois has 350,000,000 bushels of corn this year, as estimated, there can be produced swine to eat it, and put it in concentrated form for the millions of Europe who think corn only fit food for hogs, but who eat the hog, head, feet, ham, tail and some of the parts raw at that.

Illinois does not yield sixty bushels of corn per planted acre, but there is hardly a farmer who does not believe it is an easy matter to make her fat prairies do it if cultivators will do but their share. What, then, is it within the capacity of the State to produce? Suppose the area planted to corn is not increased an acre over the number planted this year, and what is the result? Nearly nine millions of acres, at sixty bushels per acre, would give the farmers of Illinois 540,000,000 bushels. One acre of corn should produce, judiciously fed, 600 pounds of pork, or perhaps 700 pounds, making our pork crop, if all fed to swine, some five and a half or six billions of dollars. These calculations are intended to merely indicate the vast capabilities of this and the surrounding corn growing States as a pork producing country, and say nothing of the hog as a gleaner and scavenger everywhere in all the States.

So far, then, as the supply is concerned, we need never worry. We can make pork to meet the world's demands, so long as corn grows and swine multiply.

But what shall be said of the demand? We have already examined some of the export figures, and noted their marvelous increase in the last few years. I have not at hand any figures showing what it costs to produce pork in foreign countries. Beyond what we may call the gleaming pork—pork fattened upon the waste of farms and households—it is of a certainly far greater there than here. As long as this remains the case we can count upon a foreign market for our surplus. Suppose it cost fifteen cents per bushel to grow and harvest a crop of corn (there are men who say they can do it for less), and that a bushel of corn makes ten pounds of pork, and that pork brings but three cents net per pound at the sty, the corn is marketed at 100 per cent. advance on its cost, barring the cost of feeding the hogs, the investment in pens, etc. The profit would be small, of course, but there would be no loss, and the years of three-cent pork are few and far between. It may safely be concluded that the Illinois farmer, can always with present appliances for corn culture, and with even present facilities for transportation, produce pork products and ship them to Europe at figures that will starve out any foreign competitor, and no edict of foreign governments can long prevent the exportation.

The foreign cry of cholera hogs, and trichinous swine meat from America, is in a great measure the fault of our own people. So long as farmers will persist in sending diseased hogs to market, to escape loss at home, so long will they strike a damaging blow to foreign demand. So long as car-loads of hogs are daily condemned as diseased, at Chicago, Cincinnati, and elsewhere, and so long as it may be suspected that diseased hogs are slaughtered, packed and sent abroad for human food, so long and justly so, will the entire pork trade of the country suffer. Is it not the duty of this organization, representative of the greatest pork-producing state of the union, to attempt by resolution, and prose

oution if necessary, a reform in this matter? It is possible that medical skill and a knowledge of causes may stop the dire inroads of so-called cholera upon herds of swine, or it may continue to decimate them so as to discourage breeders and materially diminish the supply; but it will be largely the fault of short-sighted attempts to avoid a loss, if the marketing of diseased animals continues to injure the demand abroad.

The hog, in the form of bacon, ham, mess pork and lard, is cancelling government bonds and bringing millions of gold to our shores every month. He is a money-making machine without an equal. America has no patent on him, but if our people continue to improve upon him as they have done for the past fifteen years, they will practically control his workings, and reap the bulk of the resulting profits.

Some effects of Domestication on Swine, read by Prof. G. E. Morrow, at the annual meeting of the Illinois Swine Breeders Association, at Springfield, October 1, 1879:

It is my purpose in this paper to call attention to a few points which seem to me of present practical importance rather than to trace out all the changes which domestication has produced in our swine. The time was when there were no domesticated swine. Those we now have are mainly descended from the wild hog of Europe, with important modifications in probably all our modern breeds from the introduction of Asiatic breeds perhaps of a distinct race. Through the influence of two great causes—changed conditions of life and the conscious or unconscious selection of breeders—we all know very important changes have been produced. I have never seen the wild hog in a state of freedom. At the zoological gardens in London, last summer, I saw a number of specimens of the European wild boar. As was to have been expected these were not much like the pictures we see, nor the descriptions we read of them as they roam in the forest. They were better looking animals from our standpoint than I expected to see—long-nosed, long-headed, thin-bodied, long, straight-legged, active, hardy, muscular rather than fleshy and apparently in excellent health. They much more closely resembled our breeds than do the large-snouted, elephant-carred South African hogs.

The changes which have taken place are such as we should expect. The wild hog was well fitted for his station. He was compelled to seek his own food, to defend himself against enemies, by flight, fight or cunning and to protect himself against extremes of temperature. He became active, shrewd, hardy; for the weak specimens would naturally fall a prey to enemies, or perish in storms. The most vigorous would propagate the race. Man wants the hog for one purpose, to convert grains into meat; usually the quicker the better. We relieve our pigs from every care as to their food, often forcing upon them an excess from their birth. We shelter them from extremes of weather. We take away from them nearly all motive to active exercises, and dislike any inclination on their part to take much exercise. We not only have greatly changed their conditions of life, but we increase and hasten the changes these would produce by continually making our own selection of the animals which are to continue the race—selections which most nearly fill our ideal; not at all those best fitted for life in their natural condition.

It is no wonder that the nose grows smaller, the whole head shorter, the intestines longer, the body deeper, and more rounded, the legs shorter. Nor is it strange the brain grows smaller and less active; that the disposition is greatly modified, tending more and more towards calmness, indolence, good nature, stupidity. It was to have been expected that maturity would come sooner, the reproductive function exercised at a younger age and more frequently. Nor should we wonder that other and less desirable results should frequently appear.

It is an obvious fact, that the different improved breeds of hogs more closely resemble each other than do the different breeds of horses, cattle, or sheep, and that they tend to a still closer similarity. The differences between the Berkshire, Poland-China, the Essex, are obvious enough, but they are not at all so radical a nature as those between the Clydesdale and the Thoroughbred; the Shorthorn and the Jersey; the Cotswold and the Southdown or the Meino. A cross between almost any two of the best known breeds of swine would be very much less violent than a cross between the breeds named of the other classes of animals. This is recalled to still further illustrate the fact that most hog-breeders, at least the more intelligent, have been working for the same purpose. While they have had different views as to color and size, they have in the main sought to produce animals which will eat the largest possible quantity of food, lie down quietly and turn this into pork. They have selected animals showing early maturity; have often bred from them at an early age; have encouraged a disposition to lay on fat, and have very often bred from at least comparatively near relationships.

They have succeeded. The improvement in early maturity, in growth, fattening, and breeding, has been very remarkable. But with this success has come evils, some of them already serious. My chief object is to ask breeders to call a halt long enough to carefully consider whether they have not reached the farthest limit consistent with safety. I have no sympathy and little patience with the argument so often used against this or that course of feeding or management, that it is unnatural. We have placed all our domestic animals in unnatural conditions, and our treatment of them must be very different from that which would be appropriate in a natural or wild state. But we cannot violate all natural laws persistently without paying a penalty. We cannot develop one function to excess without some corresponding injury.

With the great development of early maturity, and ability to eat, digest and assimilate large quantities of food, converting it into flesh and fat; with the overcoming of the natural

disposition to an active life; with the thorough fixing of these desired characteristics which have largely come from close breeding, we have decreased the natural hardness of the animal; not only unfitting it to withstand unfavorable conditions, but often developing direct tendencies to disease. Our improved breeds are less hardy, less healthy than were their ancestors. If we continue the course pursued in the past, they will grow more and more subject to disease.

The general tendency of domestication has been to greatly increase the prolificacy of the hog; but the effect of our too common system of over-stimulation has been quite often to make our highly-bred hogs shy breeders. In some families of cattle this evil is even more apparent. Swine-breeders may well take a lesson from the experience of the breeders who have had disastrous results from close and long continued in-and-in breeding.

We have not only greatly increased the disposition or ability of our hogs to lay on fat, to fatten at an early age and to an excessive degree, but we have decreased the quantity as well as the proportion of lean meat, or muscle. If anyone will take a bit of side meat, or a ham, from a well-fatted and well-bred pig, he must confess that the proportion of fat is too great for the best profit to consumer or butcher. It is right for the breeder and feeder to attempt to produce the class of animal which will give the largest profits. Swine-breeders have had little to cause them to attempt to produce anything else than the hog which will make the most pounds of pork. But in the long run, is it wise to ignore quality of the product? Especially, if the poorer quality is accompanied by increased danger of disease.

Quietness of disposition is very desirable in pigs; but this may be carried to excess, and weakness of constitution and the seeds of disease may be secured as well as quietness.

I have said that our best breed of hogs much resemble each other. They have their differences. Is it, or is it not the fact, that those breeds characterized by a good degree of activity—of restlessness, if you please—are most hardy, most generally healthy, and have most of the best quality, as a rule?

Would it, or would it not, be better for the breeders of the best swine of any one of a half dozen of breeds, to approach a little more nearly the conditions which produced the wild boar? Would, or would it not, be better to give well-bred pigs more exercise, less concentrated food, a little more maturity before breeding from them, and to keep them in a less unnatural condition of high flesh?

SWINE PARASITES AND INTESTINAL WORMS.

By Prof. Cyrus Thomas, State Entomologist.

Read at the annual meeting of the Illinois Swine Breeders Association, Springfield, October 1, 1879.

It has been remarked by a very competent authority that, "of our domestic animals, the least infested by insects, I mean as to the number of species that attack it, is the swine; with the exception of its louse, which seems to annoy it, principally by exciting a violent itching, it is exposed to scarcely any other plague of this class, unless we may suppose that it is the biting of flies, which in hot weather drives it to its wallowing in the mire."

While this is undoubtedly true, when we limit the term insect to its proper signification, and even may be true as a general expression, yet we must not deceive ourselves with the idea that this useful domestic animal is without any enemies belonging to the lower animal organisms. The simple mention of *trichina* is sufficient to dispel any such idea as this. It is undoubtedly true, as the author quoted supposes, that one reason why swine wallow in the mire is to rid themselves of such insect pests as tormenting flies, fleas, lice, etc.; but at present we propose to confine our remarks chiefly to such insects and other parasites as confine themselves mainly to this particular mammal.

The list, it is true, is not long, but we shall find that it brings before us some of the most singular phases of animal life to be met with in the entire kingdom.

It may excite a smile when I say that man and the hog are so closely related to each other that there is at least one animal (if not two) which depends for its existence and development upon the two, and which, if either should become extinct, must cease to exist. Yet this is literally true. Not that I would by any means intimate that man is at all hog-like in his disposition, or that the hog is man's recent ancestor, in the Darwinian sense, but simply as stating a fact when I say there is one living link, at least that binds the two together. This fact is by no means pleasant to contemplate, and its investigation is far from being a pleasant task. But life, even in its most disgusting form, is deeply interesting to the scientist, especially when it presents peculiarities not found elsewhere.

THE TAPE-WORM—*Tenia Solium*.

Many warm-blooded vertebrate animals, including man, are at times subject to the attack of certain intestinal worms known as Tape-worms (*Tenia*), which inhabit the alimentary canal. These singular animals are distinguished by their great length, and by being composed of a large number of flattened joints, amounting in some instances to several hundred.

In order that you may the more clearly understand the life history of these singular creatures, we will, for the purpose of illustration, select one species, and trace it through its various steps of growth and its strange transformations or modes of existence. As the best known we select the common tape-worm found in man (*Tænia solium*). Leaving to the physicians the description of the symptoms which indicate its presence in man, and the method of its expulsion, let us suppose it *in situ*, where we can examine it at our leisure.

Here we see an exceedingly elongate and much flattened tape-like worm, composed of an immense number of joints. The head is rounded, with four obtuse corners, at each of which you find a kind of circular disk. These disks form the sucking apparatus, by means of which it imbibes nourishment. Around the apex there is a circle of hooklets by means of which it maintains its hold on the mucus membrane of the alimentary canal. Immediately behind the head commences the series of joints; at first, and for some distance very narrow and short, but gradually increasing in length and width as they recede.

Now let us take one of these and examine it with still more care. This we see is an oblong chamber, surrounded by double walls. The inner wall is really a canal or tube, which appears to be the only real means of communication between the joints. This is what is termed the water vascular system, which appears in this and some other groups of the lower animals, to supply the place both of the circulatory and respiratory systems of the higher animals. With this exception and that of mere attachment, the joint appears to be independent of the head. The larger portion of the interior is occupied by the singular dendroid ovary, showing that the chief office of the joint—in fact its only office—is reproduction. Both the sexual elements; the male and female, are here, thereby rendering it complete for the purpose for which it appears to be formed. At one side is a small perforated papilla, or nipple, which affords a means of escape for the spores, or minute eggs.

An examination of the head segment will reveal the fact that it is without the reproductive organs, and hence is wholly incapable of reproducing itself,—a fact to which I would call particular attention. The tape-worm, therefore, consists of a series of individual animals, yet no one fully complete in itself. The joints are capable of reproducing themselves, but have to depend upon the head, or "nurse," as it is called, for nourishment; while the head supports and nourishes the joints, but has no power of reproduction.

New joints are not formed at the extremity, but arise between the head and the succeeding joints, thus pushing back the older ones. It appears that the last formed does not become perfect before another arises, so that it is some distance back from the head, in fact toward the extremity, that we find the complete ones. The last having completed its growth and ready to send forth its spores, is sloughed off, and passing out of the alimentary canal, leaves its host.

Singular as the composition of this compound worm is, we shall find its life history presenting still more extraordinary phenomena.

So long as the minute ova or eggs remain in the same situation as the parent worm, which in the case of the one under consideration is the human alimentary canal, they are unable to develop. But nature, not forgetful of her most degraded creatures, has provided a means for accomplishing this end. A joint containing fertilized ova having been discharged, is soon decomposed, leaving these minute bodies, which are covered by a tough leathery capsule, exposed. In this condition they are readily dispersed. But before they can develop, it is necessary that they be taken into the stomach of some animal different from that in which they were produced; and in the case of the one of which we are now speaking, it is necessary that it be taken into the stomach of the hog. Having entered this, the action doubtless of the gastric juice of the stomach soon ruptures the minute capsule and liberates the microscopic embryo, which consists of a minute vesicle provided with delicate silicious spines, fitted for boring into the tissues of its host. Armed with these little blades, it perforates the walls of the stomach, and takes up its abode usually in the muscles, or perhaps more properly speaking, and as Huxley affirms, the connective tissues of the muscles.

At this stage of its existence a very singular process takes place. An infolding, something after the manner of pushing in a finger of a glove when we wish to turn it, termed invagination. The little hooklets are now developed at the bottom of the sac on the inside. After this process has gone on for a time, evagination, or turning inside out, takes place, which brings the hooklets and the disks, which have also in the mean time been formed, to the outside. Thus the head has been formed, and when it has been withdrawn, there remains below the sac. We now have what is termed the cystic or bladder-worm, and which was formerly considered not only specifically distinct from the tape-worm, but as belonging to a distinct group of animals. So unlike are the two forms that even in Cuvier's great work, "The Animal Kingdom," we find it placed in a separate genus in the broad sense these groups were then understood. In this form it is known by the common name of "measles."

Such is the strange origin of this disease in the hog, a fact brought to light only in recent years by long patient scientific study of these humble forms of life—a fact which the ordinary observations and experience of a thousand years had not led any one even to suspect.

But we are not yet through our description of this wonderful life history.

Having reached this stage of its existence, our tænid seems incapable of further development, as it undergoes no farther change in the position it now occupies, and has no power or apparent disposition to extricate itself therefrom. Moreover it is, while in this position, without sexual distinction, and incapable of reproduction. For the purpose of further development, it is necessary that it now pass into the alimentary canal of man. If it now be taken into the human stomach without its life being extinguished by cooking or otherwise, a change soon takes place. The "scolex" or head fastens itself by its hooklets and sucking discs to the mucous membrane of the intestine, and soon casts off the caudal appendage, or bladder, and immediately the formation of joints commences.

This brings us back to the point from which we started, and completes its circle of changes. It follows therefore that the measles in the hog and the tape-worm in man—at least the

species known as the solitary worm—are different forms of one and the same animal. It also follows that man and the hog are bound together by a living link, that, so far as known, must cease to exist without participating in the life of both. I say so far as known; for a statement made by the immortal Cuvier leads us to believe that it is probable that its second or tapc-worm form may be developed in some other mammal than man. He remarks in reference to the cystus, or bladder-worm, which, as we have seen, is the larval stage found in the hog, that "it is said, however, that they have never been found in the wild boar." If it be true that the larval stage can be developed only in swine, and the perfect or sexual stage only in man, to account for its existence before the hog was domesticated, would present a very singular question, both for Darwinians and anti-Darwinians. But it suggests one practical means of lessening the liability, on the hog side, at least, of being subject to its attack. It is to keep them as far as possible, from having access to human excrementitious matter. The facts stated indicate clearly the following as the only remedies: first, to destroy the larval form by the application of heat; second, to keep hogs from access to human excrementitious matter, thus breaking the links at two points.

THE HOG LOUSE—*Hæmatopinus suis*, Leach.

The only true external parasite peculiar to swine with which I am acquainted, is the hog louse, a true parasitic insect, and appertaining to that group which is usually termed *Acnoplura*, and is equivalent to the common term, *lice*. The species of this group are all confined to vertebrate animals. But the term is often used to include two quite distinct groups, the one the bird lice (*Mallophaga*), which possess biting jaws; the other the true lice, which subsist upon the blood of the animals they infest, and hence are furnished with a sucking mouth, on which account they are sometimes placed among the *Hemiptera*, or true bugs.

As these are true insects, they possess but three pairs of legs, and may thus be easily distinguished from mites and ticks, which possess four pairs. A species is, as a general rule, confined to one kind of mammal, yet, with the exception of the very singular species found on the elephant, they have a strong resemblance to each other. It is a singular fact, that the peculiarity in the form or color of the mammal is very often repeated to a certain extent in the louse which infests it. Thus the head of the species which is found on the elephant is prolonged into slender rostrum, and the body is naked. That found on the hog has the head sub-rostrate. But one species is supposed to inhabit the human head, yet the varieties found on the different races of men exhibit in a remarkable degree the differences between these races. The chief peculiarities of the hog louse are the narrow and short thorax, elongate head, and the broad extremity of the tibiae, with the long, slender sickle-shaped claw.

It is stated by Viborg, according to Kollar, that these parasites swarm in every part of the body, and he declares, also, that they sometimes gnaw into the skin, muscles, etc., so that they come out of the nose, mouth and eyes, and even with the excrements; but as they are suctorial insects, this is evidently an error. This author recommends as a remedy the internal use of the black sulphuret of mercury, mixed with salt, but the proportions are not given; he adds also washing the parts affected with arsenic acid. The use of white precipitate ointment is sometimes adopted, in England. But the best and most convenient remedy seems to be the application of kerosene. I found this effectual in the case of a cow, last winter, which had become badly infested. The method I adopted was as follows: Some kerosene was put into a pan and then applied with a soft whitewash brush twice.

As a rule, the older animals are more liable to be affected than the younger ones. Exposure and want of air and cleanliness appear to promote their development and increase. Murray, an English writer on these insects, states that in that country these parasites most frequently occur on those swine freshly imported from the "sister Isle (Ireland). He says that "it was many months before Mr. Denny," who was studying animal parasites, "could obtain a single specimen. He had applied to both farmers and their butchers, neither of whom seemed to approve the idea which he had conceived of their pigs being lousy, but referred him to those of the Emerald Isle as being sure to gratify his wishes, forgetting that the Irish pigs come to this market to meet English buyers. He accordingly visited a colony just arrived, when he most certainly met with a ready supply; but here they were confined almost entirely to lean animals, and wherever he found a pig fat and healthy, no parasites were to be seen."

The fact that lean and unhealthy swine are more infested than those that are healthy and in good condition, I believe is found to be true, not only in England, but here and elsewhere, and suggests doubtless the most effectual of all the proposed remedies.

THE HOG ITCH-MITE—*Sarcoptes squamiferus*, Furst; or *S. suis*, Gerlach.

The itch-mite occasionally found on swine was supposed by Gerlach to be a true parasite of this species, hence its name. It is now believed to be the same as that which infests the dog; and Murray seems inclined to consider it the same as that found on man (*S. scabiei*). It is precisely similar in form and has the same number and disposition of hairs, spines, etc., as the latter species. I am not aware whether this ever proves seriously injurious to swine, as the scab in sheep, or not.

There remains yet to be mentioned that notorious species which, of late years, has become such a terror to pork-eaters—*Trichina spiralis*, which is usually designated by the name

TRICHINA.

As so much has been written concerning this species, recently, to which I have nothing to add, I will attempt nothing further in reference to it at present, except a very brief notice of its general characteristics.

According to Huxley it holds a considerably higher position in the scale of being than does the tape-worm, to which in its transformations it bears some strong resemblances. It has

first to pass through the encysted form in the tissues of the body as does that worm; next it acquires its sexual condition in its alimentary canal. The sexes are distinct, being found in this case in separate individuals and not in one, as is the case with the tape-worm. After reaching the encysted form in one animal, they are incapable of further development until taken into the alimentary canal of some other individual. This happening, the immature worms escape from their enveloping cysts grow larger, develop their sexual peculiarities, and give birth to numerous progeny, which are produced viviparously. The young thus produced perforate the walls of the alimentary canal, and after working their way among the muscles become encysted, thus completing the circle of their life history. But having reached this stage, they are incapable of further development until taken into the alimentary canal of some other animal.

But as I have not made this singular parasite a special study, I shall attempt no further description of it.

In addition to the foregoing, there are other intestinal worms which are sometimes observed in the hog, which under certain conditions of the system appear to produce serious and occasionally fatal results.

Dr. H. J. Detmers states that in some cases, where the intestines were "inflamed and in a degenerated condition," he has found a whole convolution of the smaller intestines united into an almost solid bunch. On opening this he found all three membranes, especially the external or serous membrane and the internal or mucous membrane very much swollen and degenerated, and in a small cavity in the center of the bunch one or two large round worms (apparently *Echinorhynchus gigas*) imbedded. These *Acanthocephala*, or thorn-headed worms, are formidable entozoa, and may well be the authors of the diseased condition of the intestines observed, the head being armed with strong recurved spines, which serve to draw them deeper and deeper into the tissue which they penetrate.

The species of *Echinorhynchus* usually reside in the rectum, the walls of which they pierce in such a manner that the head projects, enclosed within a cyst, upon the peritoneal surface, while the body hangs freely in the cavity of the intestine. It appears that they ultimately pass entirely through the wall of the intestine into the peritoneal cavity, as they are sometimes found in this position.

The species mentioned by Dr. Detmers is found in the hog, as well as other animals, and often attains a comparatively large size. As a rule, the species of this generic group appear to be confined mostly to fish, and according to Leuckart, some of the species at least pass the larval stage as parasites in crustaceans.

Although without any alimentary canal, taking nourishment wholly by absorption, in which respect it appears to differ from the nematoid group, to which the trichina belongs, yet the two groups appear to me to be closely related to each other.

On motion, adjourned till Tuesday evening of the week of the State Fair for 1880.

A. J. LOVEJOY,
Secretary.

CHARLES F. MILLS,
President.

PROCEEDINGS
OF THE
FIRST ANNUAL MEETING OF THE
ILLINOIS TILE-MAKERS' ASSOCIATION.

ROOMS DEPARTMENT OF AGRICULTURE, }
SPRINGFIELD, January 21, 1879—10 o'clock a. m. }

The meeting was called to order by J. K. Reader, of Auburn, who read the invitation to the tile makers of the State, signed by Messrs. Dawson and Reader, of Auburn, and Messrs. Grubb and Donner, of Springfield, and suggesting a meeting at Springfield, January 21, 1879, for the purpose of discussing the question of forming an association of Tile Makers for mutual benefit in exchanging opinions as well as to devise means to increase the interest among farmers on the subject of drainage.

On motion,

J. K. Reader, of Auburn, was made temporary chairman, and J. J. W. Billingsley temporary secretary.

Motion of J. R. Keep, carried—

That the chair appoint a committee of three to draft constitution and by-laws:

The chair appointed as said committee Messrs. Geo. C. Gillett, T. A. Smith and E. M. Heafer.

An informal discussion was then participated in by nearly all present as to the object and character of the organization.

On motion,

Adjourned to meet at 1 o'clock p. m.

AFTERNOON SESSION.

Association met as per adjournment.

Called to order by Chairman J. K. Reader.

Motion of J. W. Penfield carried—

That a committee of three be appointed by the chair to prepare a programme for the meeting.

Chair appointed as said committee Messrs. J. W. Penfield, Willonghby, Ohio, W. P. Craig, Woodson and J. W. Utt, of Virden:

Committee on constitution presented a report, which was received and the committee discharged.

Motion carried—

To take up the constitution by article, which, after due consideration, was adopted, as follows:

CONSTITUTION OF THE ILLINOIS TILE MAKERS' ASSOCIATION.

ARTICLE I.—NAME.

This organization shall be known as the Illinois Tile-Makers' Association.

ARTICLE II.—OBJECT.

This association shall have for its object the promotion and encouragement of tile drainage throughout the state.

ARTICLE III.—MEMBERSHIP.

All persons interested in the manufacture and use of drain tile or brick, and in furthering the use thereof—excluding all from honorary membership who may be representing inventions for manufacturing, burning or ditching—shall be eligible to membership, and may become members by signing the constitution and paying one dollar.

ARTICLE IV.—MEETINGS.

The meetings of this Association shall be held annually commencing on the third Tuesday in January of each year at such place as shall be agreed upon.

ARTICLE V.—OFFICERS*

The officers of the Association shall consist of a President, Vice-President, Secretary and Treasurer.

ARTICLE VI.—ELECTIONS.

The officers shall be elected annually and shall continue in office until their successors are elected.

ARTICLE VII.—DUTIES OF OFFICERS.

SECTION 1. The President shall preside at all meetings of the Association and discharge the usual duties of a presiding officer.

§ 2. The Vice-President shall perform the duties of President in his absence.

§ 3. The Secretary shall keep correct record of the proceedings of each meeting and perform the usual duties pertaining to the office.

§ 4. The Treasurer shall have custody of the funds of the Association and pay the same as directed by vote of the Association.

ARTICLE VIII.—DUES.

The members of this Association shall pay as dues the sum of one dollar per annum.

ARTICLE IX.—QUORUM.

The majority of the members of this Association shall constitute a quorum to transact business.

ARTICLE X.—AMENDMENTS.

This constitution may be altered or amended at any regular meeting by a two-thirds vote of the members present.

The following gentlemen subscribed to the constitution and were declared members of the Association:

D. H. Harts.....	Lincoln, Ill.
J. R. Kemp.....	Youngstown, Ohio.
H. H. Eyman.....	Buffalo, Ill.
Abel Mitchel.....	Woodhull, Ill.
Wm. Brenneman.....	Hope, Ill.
L. A. Craig.....	Woodson, Ill.
W. P. Craig.....	Woodson, Ill.
G. C. Gillett.....	Auburn, Ill.
Peter Sweitzer.....	Washington, Ill.
A. Washburn.....	Galva, Ill.
Joseph Donner.....	Springfield, Ill.
J. L. Turner.....	Taylorville, Ill.
Cleveland, Morton & Co.....	Bushnell, Ill.
C. H. Chilton.....	Barry, Ill.
Bardolph Fire Clay Works.....	Bardolph, Ill.
J. W. Utt.....	Viriden, Ill.
Lafayette Buket.....	Washington, Ill.
A. W. Walton.....	Princeton, Ill.
J. S. Tucker.....	French Grove, Ill.
Charles Mitchell.....	Georgetown, Ill.
John Kaser.....	Carrollton, Ill.
J. D. Kuapp.....	Adrian, Michigan.
D. D. Clark.....	Monica, Ill.
J. F. Adams.....	Pontiac, Ill.
Ira Brown.....	Milford, Ill.
R. G. McCullough.....	Summerville, Ill.
J. K. Reader.....	Auburn, Ill.
Coons Bros. & Co.....	Winchester, Ill.
G. A. Watt & Co.....	Alsey, Ill.
E. M. Heafer.....	Bloomington, Ill.
D. W. Allison.....	Macon, Ill.
R. C. Straight.....	Fairbury, Ill.
W. W. Arnold.....	Whitehall, Ill.
J. A. Smith.....	Whitehall, Ill.
W. L. Barnett.....	Carrollton, Ill.
D. Culbertson.....	White Hall, Ill.
H. A. Field.....	Carrollton, Ill.
N. Lyon.....	Hamilton, Ill.
M. C. Dawson.....	Sparland, Ill.
J. M. Pike.....	Rosemond, Ill.
Samuel Hugenberger.....	Buffalo, Ill.
Edward A. Kennel.....	Hopedale, Ill.

Motion carried,

That the Association proceed to elect officers for the ensuing year.
The following were elected:

OFFICERS FOR 1879.

President, J. K. Reader.....	Auburn.
Vice-President, T. A. Smith.....	Whitehall.
Secretary, W. L. Barnett.....	Carrollton.
Treasurer, A. Horrocks.....	Bardolph.

On motion,

The following gentlemen present were made honorary members.

Geo. L. Eastes.....	Danville, Ind.
L. E. Chandler.....	Indianapolis, Ind.
J. W. McAllister.....	Woodson, Ill.
S. T. K. Prime.....	Dwight, Ill.
J. W. Billingsley.....	Indianapolis, Ind.
W. C. Stacy.....	Ottawa, Ill.
S. D. Fisher.....	Springfield, Ill.
J. W. Penfield.....	Willoughby, Ohio.
A. N. Hadley.....	Indianapolis, Ind.
H. Brewer.....	Tecumseh, Mich.
Charles F. Mills.....	Springfield, Ill.

On motion,

Adjourned to 8:30 a. m. to-morrow.

MORNING SESSION.

JANUARY 22, 1879, 8 o'clock a. m.

Association met as per adjournment.

President Reader in the chair.

Minutes of yesterday's session read and adopted.

On motion of J. W. Arnold,

The officers of the State Agricultural Union were made honorary members of the association, also the following gentlemen:

William H. Ellis, Greenfield, Ill.

James M. Bourne, Springfield, Ill.

W. A. Rhodehamel, Piqua, Ohio.

The following report of committee on programme was received and adopted:

QUESTIONS FOR DISCUSSION.

1. The construction of kilns best adapted for burning drain tile.
2. Construction of racks or sheds for drying tile, best calculated to facilitate the drying process and cheapen the handling of tile from machine to kilns.
3. Clay best adapted for tile-making.
4. Cheapest power for running tile machinery.
5. What shaped tile is the most cheaply made, and of the greatest utility and strength.

Motion carried—

That speeches be limited to five minutes each, and only one speech by same person be allowed on each question.

On motion,

The discussion of first question was made the special order.

The construction of kilns best adapted for burning tile:

R. G. McCullough, of Summerville, preferred the square kilns with crown, and his experience was in favor of up draft kilns, and used coal in preference to wood.

E. M. Heafer, of Bloomington, illustrated, with model, a down and up draft kiln with crown, the flues in corners, with which he burns good tile made of common clay.

W. W. Arnold, of White Hall, after considerable experience with up draft kilns, had abandoned them and was using the down draft and obtaining the best results by burning coal.

George C. Gillett commenced with square kilns; last season built round kilns and thinks them more durable and can easily strengthen them with bands; can keep more regular and even heat; has dampers for regulating the heat and diving flue in the bottom of the kiln.

D. Culbertson, of White Hall, after an experience of fourteen years, favored wood as a fuel, and was convinced that it was a saving of time; began with a round up draft kiln; is now using two square and one round kiln, and prefers the latter.

J. R. Kemp, of Youngstown, Ohio, preferred an open top kiln, and favored an attachment which made it possible and profitable to use coal slack for fuel. Mr. Kemp spoke as follows: "I have found nothing equal in a practical sense to the Wingard Patent Calorific process which is now so extensively used and a success beyond a question of doubt. I would advise all tile manufacturers to let patents and representatives of patent kilns do their own experimenting, and at their own expense, as it is an expensive business.

The old maxim is applicable to this question, that one fact is worth a dozen theories not reduced to practice."

This process can be seen in successful operation in seventeen states and in Canada, and no one should attempt to excuse himself on the ground of ignorance as to its great merit. I would have you bear in mind this one fact, that it is the only known method by which this cheap coal slack which you are now filling in roads and ballasting railroads with can be utilized as a fuel, and nothing better is wanted in this kiln. One ton of bituminous coal in the calorific kiln will produce as much heat as two cords of the best wood.

J. A. Smith, of White Hall, uses wood and the up draft kiln; has potter's clay; burns one kiln per week; the nature of the clay requires a white heat and rapid burning; kilns hold from seven to nine tier of tile; brick contract more in burning than tile.

Motion carried—

That the second question be taken up, viz:

Construction of racks or sheds for drying tile best calculated to facilitate the drying process and cheapen the handling of tile from machine to kilns.

Mr. Penfield stated that there was a great difference of opinion as to the way of handling tile and plans of drying sheds, the result of experience. Racks or receiving sheds should be so arranged as to expedite business of handling tile from the machine, and from the racks to the kilns.

W. W. Arnold, of White Hall, had, in the course of many years experience, tried the various appliances and was much in favor of using cars with racks, as by this plan there was fifty per cent. less handling of tile as they remain on the car after loading at the mill until they are placed in the kiln; the cars have slatted bottoms and slats on outside to keep tile from falling off, and are adapted to all sizes of tile, and greatly facilitate the drying as the tile stand on the end and the cars can be run out in the sun; built a fine shed, but preferred to have the car out in the open air; has deck on the car which can be put on or off at pleasure; uses no drying shed; the cars will hold 250 pieces four inch tile; the car is always ready for any size of tile; some clays crack if exposed in the open air; they may be protected with deck on or off.

George C. Gillett has blinds on his drying shed and uses racks and trucks, the nature of clay used made it necessary to protect the tile when drying from currents of air, otherwise there would not be one perfect tile in a thousand.

Mr. Penfield inquired how Mr. Arnold avoided a confusion of sizes.

Mr. Arnold stated that he used two tracks, one for running loaded cars to the kilns and one for returning empty cars.

H. H. Eymann, of Buffalo, dried his tile in sheds 25 feet wide by 130 feet long, with doors hinged at the top, which could easily be opened and closed as desired; uses cars 7 feet long, 2 feet high, 22 inches wide, with tracks on either side for running tile to scaffold and from scaffold to kiln.

M. C. Dawson, of Sparland, had obtained the best results with his clay by using slatted floors and shelves, uses sheds; keeps wind off the tile during first two days; uses double deck cars with slats.

R. C. Straught, of Fairbury, Ill., has a drying shed 22x200 feet, with racks for drying; uses long cars to run tile from racks to kilns.

Motion carried—

That the third question be passed for the present, viz: Clay best adapted for tile making.

On motion—

The fourth subject was made the special order, viz:

Cheapest power for running tile machinery.

Mr. McCullough was using horse power and for a small trade thought it much the cheapest.

George C. Gillett was in favor of steam as the most satisfactory and reliable power for making tile out of all kinds of clay.

Mr. Arnold, of Whitehall, Ill., thought the matter of power depended altogether upon the amount of tile to be made in a given time. Power might be rated in point of economy for a limited number of tile. First—by hand; second—horse power; third—steam power.

On motion,

The fifth question was passed, "What shaped tile is the most cheaply made, and of the greatest utility and strength?"

On motion,

The question of legislation affecting drainage, was taken up.

Mr. Arnold, of White Hall, considered that the meeting of the State Tile-Makers' Association during the session of the legislature, very opportune. The farmers who want to under-drain need help, and must have much needed legislation. Many poor farmers are being driven out of the State for want of this kind of help. England makes good laws, and the nation gives substantial encouragement to this interest. Men who have to plough in the mud must be lifted out. The majority of the farmers of the State are poor, and we must expect opposition. Tile-makers must help to bring about this desirable result, and if we work earnestly we will get what is reasonable to expect. Drain tile must be sold at the lowest possible price, and manufacturers must be protected in its sale, the same as the lumber dealer. A law giving manufacturers a lien on the tile will enable farmers to purchase on time, and obtain in the increased production the means to pay for the same.

On motion,

The chair was authorized to appoint a committee of three, to present a memorial to the general assembly, calling attention to the necessity of a practical drainage law.

The motion was amended, increasing the committee to seven, with the president as chairman.

The chair appointed the following committee on memorial:

Messrs. J. K. Reader, Auburn; W. W. Arnold, White Hall; Ira D. Brown, Milford; T. A. Smith, White Hall; A. H. Walton, Princeton; S. T. K. Prime, Dwight; A. Horrocks, Bardolph.

On motion,

One o'clock was made the special order for agents of tile machines, kilns, and other appliances used in the manufacture of tile to present the merits of their mills, etc., each party present to have not to exceed ten minutes.

On motion of Mr. Gillett,

The bill for printing, amounting to \$—, was ordered paid.

On motion,

Adjourned to one o'clock.

AFTERNOON SESSION.

ONE O'CLOCK, P. M.

Association met as per adjournment.

President Reader in the chair.

Special order being the hearing of reports of manufacturers of machinery used for making tile and coming up. The following gentlemen called attention to the respective merits of their specialties as follows:

Mr. Rhodehamel, Picqua, Ohio, presented model of John O. Ferrell's tile mill.

Mr. Macy, Indianapolis, Ind., agent of the Hadley Mill.

Mr. Knapp, Adrian, Mich., agent of the Adrian Brick and Tile Machine.

Mr. Chandler, of Indianapolis, Ind., the Phoenix mill.

J. W. Penfield, Willoughby, Ohio.

E. M. Heafer, Bloomington, Ill., the Heafer, the patent up draft kiln.

On motion,

The president was authorized to make an assessment on the members of the Association during the year not to exceed \$1 00 each.

The following resolution, introduced by T. A. Smith, of White Hall, was adopted :

Resolved, That the thanks of the Association be tendered to Hon. S. D. Fisher and Charles F. Mills, of the Department of Agriculture, for courtesies extended during the meeting.

On motion,

The Association adjourned to meet in Springfield on the third Tuesday of January, 1880.

W. L. BARNETT,
Secretary.

J. K. READER,
President.

ILLINOIS AGRICULTURE, 1879.

BY D. B. GILLHAM, EX-PRESIDENT.

The intention of the Board in calling for a paper of this character for publication is understood to be for a brief history of the more important items of interest connected with the development of the agricultural resources of the state as well as industries nearly related thereto.

The history of agriculture, of the leading agricultural state, for even the brief period of one year, would require a volume of no small dimension.

It may be unnecessary to repeat the well known fact that there is not a tract of land on the face of the globe of the same area that compares with the State of Illinois in the great fertility of soil, with temperature and rainfall that so uniformly ensures abundant crop with so little labor and expense for cultivation.

The length of the state (over 300 miles) from north to south admits of the successful culture of the leading crops grown on the continent, not excepting cotton and sugar cane, the latter of which in the form of amber cane is receiving considerable attention.

The transportation facilities enjoyed by the farmers of Illinois are not approached or enjoyed by the residents of any similar extent of country, and there are few localities not in direct communication by rail with the leading markets.

The State indebtedness is so small (\$277,000 00) since the payment made the first of January, 1880, as to be hardly worth consideration as much more than the amount of debt outstanding is now in the State treasury awaiting the maturity of the bonds.

The revenue from various sources is more than sufficient to cover all the expenses of the State government without direct taxation.

The entire local or municipal indebtedness of the State according to the latest returns at my command is \$51,811,691 00, while the equalized assessment of the real and personal property for 1879 at 50 per cent. valuation is \$784,623,550 00.

The rapid appreciation of property and values in this State is not approached by any State east of the Mississippi river.

It is not difficult to estimate the low rate of taxation imposed upon our people to cover the expenses (\$1,000,000 00 per year) for general State purposes or to approximate the decrease from year to year in the rate of taxation when we consider the large annual increase in the taxable property of the State, the result of better farm culture,

the large tracts of fertile lands that are added each year to the cultivated area of the State, and the growing importance of our manufacturing and commercial enterprises.

The wise provision of the new constitution is having the desired effect in decreasing indebtedness and attracting tax ridden farmers, manufacturers and capitalists of other States to the fertile prairies of Illinois, where the laws prohibit counties, cities or other municipalities from incurring indebtedness, for any purpose whatever, exceeding five per cent. on the value of taxable property therein, including existing indebtedness.

The local indebtedness of the State, considering the value of taxable property, is comparatively small, and with few exceptions the proceeds of the bonds issued may be considered as a good investment expended in the construction of railroads and other much needed improvements that are yearly adding largely to the value of real property of the State.

There are many thousand acres of unimproved land in this State which can be purchased for a nominal sum that are unsurpassed for fertility, accessible to markets, where the best school, church and social advantages can be enjoyed.

This much is said by the way of introduction to impress upon our own people, as well as the people of other states, the superior advantages enjoyed by the farmers of Illinois, and it is believed that the following figures will warrant even more favorable statements concerning the privileges enjoyed by the citizens of this State:

* COMPARISON.

The following figures are compiled from the most reliable statistics at my command and include only a few of the leading crops grown in the United States, which will serve my purpose in illustrating the prominent position held by Illinois as the leading agricultural state in the union:

	Crop or No. in 1879 in U. S.	Crop or No. in 1879 in Illinois.	Per ct. in Ill.
Corn.....Bushels..	1,544,899,000	305,913,377	19.
Wheat.....Bushels..	448,755,000	45,041,252	10.
Hay.....Tons.....	35,648,000	2,578,746	7.†
Oats.....Bushels..	364,253,000	54,864,589	15.†
Rye.....Bushels..	23,646,500	4,238,824	17.†
Hogs.....Number..	34,786,200	2,799,051	8.
Cattle.....Number..	33,234,500	1,832,265	5.†
Horses.....Number..	10,938,700	887,233	8.†

In order to illustrate the immense value of the crops grown in the state each year, and to call particular attention to the inexhaustible mines of wealth of our broad and fertile prairies, the annual value of corn in the farmers' hands is given, in comparison with the domestic production of gold and silver mined in the United States since 1874, as reported in the revised statement of the officers of the government mint.

When the labor and all the expenses attending prospecting and production of the precious metals reported below are considered, it is safe to say that the expenditure of labor and capital has not returned

the miner and capitalist as good an investment as the farmers of the state have realized from the crop of corn.

Year.	Gold.	Silver.	Total.	Value Illinois corn crop.
1874	\$38,490,902	\$37,324,594	\$70,815,496	\$74,804,240
1875	38,467,856	31,727,560	65,195,416	95,200,000
1876	39,929,166	38,783,018	78,712,184	69,130,000
1877	46,897,390	39,793,573	89,690,963	77,562,879
1878	51,206,360	45,281,385	96,487,745	55,035,842
1879	38,899,858	40,812,132	79,711,990	97,483,052
Total	\$248,891,532	\$238,722,260	\$477,613,792	\$470,216,013

TRANSPORTATION.

The facilities for marketing crops grown in the state have been alluded to, and, while a matter of record, the magnitude and completeness of our railroad system and the extent of communication by water that we enjoy with the outside world are not duly considered or appreciated by the great majority of parties benefited.

In 1879 there were 86,263 miles of railroad in the United States, over eight per cent. of which (7,559 miles) was in this State.

The water communication by way of the Mississippi river on the west, the canal and Illinois river from the Lakes through the north and western centre of the State and the Ohio river on the southeast, leave but little more to be desired in the way of cheap or rapid transportation facilities.

In this connection I cannot say less than that the prominent officials of a majority of the leading Illinois railroads have favorably considered and most cheerfully responded to the calls of this Board for any assistance calculated to promote the agricultural interests of the State.

There is no class of men (excepting the producers) that are more deeply interested in increasing the crop, than the managers of railroads, some of whom, without being known in connection therewith, have originated enterprises that have greatly benefited the farmers of the State.

The first great effort to interest the farmers of the State as to the importance of tile drainage, was put forth by the general manager of a road connecting the cities of St. Louis and Chicago in offering to transport tile at less than cost, and through the influence of this gentleman a very instructive paper on the subject was published in the leading metropolitan daily papers, and afterwards many thousand copies of the paper in pamphlet form were distributed by several of the leading railroads, materially aiding the State Board of Agriculture in awakening a deep interest among farmers, which has resulted in the inauguration of a system of drainage that is rapidly spreading over the State and will in the near future largely increase the productions and almost insure good crops each year.

A prominent east and west road has distributed many thousand papers of a pamphlet, with a view of encouraging the construction of better wagon roads and offering to carry material for the same at the net cost of service and wait for any profits it is entitled to, in the increase of business and general prosperity that is sure to inure in the future.

Other interests which deeply concern the future prosperity of the farmers of the State, that are receiving the attention of the managers of railroads might be named if necessary, but the intelligent farmer has long since been convinced of the common interest of the producer and carrier in increasing the acreage and yield of our broad prairies.

The success of our county and State Fairs is largely due to the low rates of freight and excursion rates granted exhibitors and visitors by the roads of the State whose officers duly appreciate the advantages of these schools of instruction where the object lessons taught, could have but one result—that of educating our farmers as to the best varieties of seed and the culture of crops, the advantages of raising the improved breeds of live stock and the economy and profit attending the use of labor-saving machinery.

It would be difficult to find a well-informed man that does not credit these agencies with much of the honor of placing Illinois in the lead of sister agricultural states in the profitable and almost unlimitable production of the leading crops.

PROGRESS.

The change for the better of late years in the methods of farming in Illinois is apparent to the most casual observer. The generous response of the soil to the most indifferent culture in the early settlement of the State when the primitive wants of the pioneers were easily and economically supplied, naturally encouraged the practice among the great majority of our farmers of slight preparation of land for planting and little care in seeding to be followed by partial cultivation of the crops.

This early practice is rapidly passing away and there is each succeeding year less complaint of the accumulation of manure in and about stables and feeding lots as being a nuisance; the ricks of straw and, millions of acres of corn stalks are generally used for other purposes than illuminating the prairies, while the improved machinery now in general use cuts the stalks of corn into suitable lengths for plowing under and returning to the soil the elements that will in part insure better crops in the future than if the early custom of burning was continued.

The spirit of improvement is having the effect of reducing each year the average size of farms, and instead of the heretofore prevalent boast of having the largest corn or wheat crop in the neighborhood, the spirit of emulation is in the direction of more thorough culture and a desire to secure the largest average yield per acre.

The hundreds of drain tile factories that have commenced operation the last few years in the State, and the use of about fifty million feet of tile, or nearly ten thousand miles of tile annually, is one of the unmistakable evidences of the radical change for the better in the improved methods of farming, adopted by a large number of our most progressive farmers whose example and success will induce the majority of those engaged in this calling to follow suit.

Thorough drainage is the first link in the long chain of improvements that must necessarily precede a progressive and profitable system of agriculture. It makes the husbandman in a great measure master of the situation with reasonable assurance of good returns in wet as well as dry seasons.

Good crops provide the means and stimulate the ambition for the most thorough culture of a greater diversity of crops which, if grown in proper rotation, will improve the fertility of the soil and increase the great possibilities of Illinois in providing meat and bread for the nation.

The exceptionally good results that have been attained in growing crops will not in the near future be considered as simply extravagant estimates by many of our best farmers, as at no distant day large numbers of our ambitious cultivators of the soil will reach the high standard of the leaders of to-day, and the more progressive will soon demonstrate that our soil and climate make it possible to achieve more profitable results.

The inquiries made as to the larger yields of some of the leading crops have not been as extensive as I could wish and may not do justice to some localities, but they will serve my purpose, and I hope convince all that examine the figures that the farmers of Illinois should not be satisfied with an average yield per acre in ordinary good seasons of less than one-half the results here reported..

CORN.

Answers to inquiries in relation to large yields of corn have been received from nearly two-thirds (65) of the counties in the State, showing an average yield of a fraction over sixty-four bushels per acre.

Had it been known that the information was for publication correspondents would doubtless have made more thorough inquiry, and the returns might have given other counties the same prominence.

Ten counties, showing an average yield of 80 or more bushels per acre are given below, omitting the names of producers.

A number of the other counties, showing a larger yield per acre than some reported below, were omitted, owing to the limited acreage, (under 10 acres) which could hardly be considered except as garden patches, and doubtless received more than good field culture.

The same remarks will apply to other crops enumerated.

Counties.	Variety of Corn.	Number of acres.	Average yield per acre.	Kind of Soil.
Coles.....	Yellow.....	80	85	Prairie.
DeKalb.....	Drum Head.....	.....	105	.....
Henry.....	'The Brown'.....	10½	85	Black loam.
McDonough.....	Yellow Mixed.....	20	80	Prairie.
Menard.....	.....	100	130½	.....
Mercer.....	.....	40	100	Prairie.
Morgan.....	Medium Yellow.....	150	100	.....
Peoria.....	Yellow Dent.....	33	85	Black loam
Scott.....	.....	20	90	.....
Warren.....	Mixed.....	60	100	Prairie loam.
Average.....	.....	.....	96	.....

WINTER WHEAT.

The average yield per acre of this crop in the ten counties named below will not be accepted as giving the large yields of the 1879 winter wheat crop, and in explanation will say that the reports were obtained prior to the harvesting of that exceptionally good crop.

Fields of less than ten acres are not included, some of which show a yield per acre of over 40 bushels.

The average of the reports, which include half the counties in the state, is 28 bushels.

Counties.	Variety Wheat.	Number of acres.	Av. yield per acre.	Kind of soil.
Alexander.....	Golden Chaff.....	95	30	Black loam.
Calhoun.....	Red May.....	30	31	Bottom.
Carroll.....	.....	27	31	Creek bottom.
Cumberland.....	Mediterranean..	16	33	Black prairie.
Jefferson.....	Red Sea.....	18	33	Prairie.
Madison.....	Fultz.....	10	35	Black timber land.
Monroe.....	Red May.....	90	31	Loam.
Pike.....	Red May.....	100	30	Sandy loam.
Wayne.....	English.....	10	40	Timber land.
White.....	Fultz.....	20	38	Sandy loam.
Average.....	.....	.....	33	.....

OATS.

The reports from fifty-nine counties show an average yield of 52 bushels of oats per acre. Ten counties are reported herewith showing an average yield per acre of 69 or more bushels. The average yield of the following named counties is over 75 bushels per acre. The yield per acre of one county (not included for want of other data, as to area, etc.,) is 100 bushels.

Counties.	Variety.	Number of acres	Yield per acre.	Kind of soil.
Boone.....	White.....	10	70	Clay and sand.
Clinton.....	Mixed.....	14	86	.....
DeKalb.....	White.....	10	70	Black muck.
Fulton.....	White.....	10	69	Black clay loam.
Henry.....	White.....	10	72	Black loam.
LaSalle.....	White.....	30	75	Black loam.
Livingston.....	White.....	18	75	Black loam.
Mellenny.....	Black.....	17	93	Black loam.
Stephenson.....	White.....	10	75	Black prairie.
Winnebago.....	White.....	20	70	Sandy loam.
Average.....	.....	.....	75	.....

IRISH POTATOES.

Reports from nearly half the counties in the State have been received reporting the better yields per acre of Irish potatoes, from which the following table has been compiled.

For want of satisfactory data as to area, etc., we have not included counties reporting an average yield of 300, 400, and even six hundred bushels per acre.

The average yield per acre of the ten counties named is 240 bushels, while that of the 46 counties is over 199 bushels.

Counties.	Variety.	Number of acres.	Yield per acre.	Kind of soil.
Adams.....	Peach Blow.....	5	200	Loam.
DeKalb.....	Early Rose.....	2	300	Prairie.
Effingham.....	Peach Blow.....	3	200	Prairie.
Henry.....	Early Rose.....	1	210	Prairie.
Jackson.....	Peach Blow.....	1½	220	Clay loam.
Kane.....	Snow Flake.....	½	300	Clay.
Logan.....	Peach Blow.....	10	200	Sandy loam.
Monroe.....	Late Rose.....	1	220	Loam.
Pope.....	Russet.....	1	320	.....
White.....	Peach Blow.....	2 1-5	232	Sandy clay loam.
Average.....	.....	.....	240	.....

NO FAILURES.

The almost certainty attending the cultivation of crops in this State cannot better be illustrated than by giving the average yield per acre of corn during the last twenty years.

The average yield per acre of corn for the period named is 30 55-100 bushels, the poorest crop on record during the time averaged 18 bushels per acre or 60 per cent. of the average, which is good evidence that during the last twenty years there has not been a failure, and that the poorest crop on record is better than half an average.

Can any other state make a more favorable showing? Certainly no commercial business can compare with the safe and moderate profits received by the farmers of Illinois.

The wheat crop since 1860 has averaged over twelve (12.6) bushels per acre; the lowest yearly average was over nine (9.3) bushels per acre, a fraction over 73 per cent. of the average for twenty years.

Other crops might be named, were more conclusive proof required, that there has not been a failure, or as low as half an average yield per acre of wheat and corn during the past two decades.

The average yield per acre of corn and wheat the past ten years exceeds that of the previous decade, and the latter period will bear no comparison with the average yield of the next ten years in the estimation of the best posted agriculturists in the State.

VALUE OF LANDS.

It is not generally known to emigrants and farmers in the middle and eastern states that there are large tracts of choice lands in various portions of Illinois that have never been plowed and only await the attention of the intelligent, industrious husbandman to yield untold millions to the vast productions for which this State has long been noted.

Good farm lands in this State are selling for less than their value and can not long remain at the prevailing low prices. The increased number of disheartened farmers from the west seeking homes in this State; the large number of the better class of foreigners with moderate means that are yearly welcomed to their new homes in Illinois, with the steady immigration of the earnest, enterprising farmers from the middle and eastern states to the Prairie State will at no distant date ensure the settlement of the millions of acres of the most productive land on the continent.

This State offers inducements to settlers not found elsewhere, with soil and climate that never fails to liberally compensate the farmer for the time and labor expended in seeding and harvesting all the leading crops.

There is scarcely a township in the state in which good farms are not offered for sale at prices that the fortunate owners, with ordinary attention, can realize profitable returns for the investment; and I am convinced that I express the sentiment of the Illinois State Board of Agriculture, in saying to all seeking new homes, that Illinois has vast tracts of unoccupied land, and most cordially invites a careful inspection of the unsurpassed fertility of her soil, low rate taxation, unequalled transportation facilities, and the advantages of the society of an honest, earnest industrious and progressive people, noted for their hospitality and enterprise, and zealous in all good works calculated to advance the general prosperity of her citizens, as well as to promote the free institutions of the state and national government.

AGRICULTURAL STATISTICS.

A paper of this character would hardly be considered complete without reference to the statistics of the crops grown in the state, which, in this case is unnecessary, as such statistics will be published in the same report with this paper. The Secretary of the Board has collected and compiled statistics of all the crops produced in the state, which for detailed information of this character, have for years been, recognized as standard authority.

REPORT OF COMMITTEE ON CROP STATISTICS.

To the Illinois State Board of Agriculture:

Your committee take great pleasure in calling attention to the high appreciation entertained for the crop statistics collected and published by this Board, by producers and all other classes interested in the agricultural resources of the State.

The numerous commendatory letters in relation to these statistics, on file in the department, should encourage all interested in the material prosperity of the producing classes to make additional efforts to enlarge upon and perfect the present system of collecting and publishing all that relates to the various important crops grown in the State, to the end that farmers and legitimate dealers who are most deeply interested, may be advised from time to time of the condition of the growing crops as well as the extent and quality of the crops as soon as possible after harvesting.

FARM DRAINAGE.

The statistics relating to farm drainage indicates an increasing interest in this subject on the part of our farmers, and notwithstanding the fact, that the past season was comparatively a dry one the tile manufacturers have disposed of more tile in 1879 than in 1878 as will be seen by the accompanying tables.

The drainage law passed by the last general assembly will enable and encourage many to commence the work of tiling. The new law on farm drainage is recommended for publication in the forthcoming report of the Board.

The expense for collecting and publishing the crop circulars in 1879 were as follows:

3,000 December, 1878, crop circulars.....	\$237 91
3,000 June, 1879, crop circulars.	199 80
3,000 July, 1879, crop circulars	75 65
3,000 August, 1879, crop circulars.....	125 55
10,000 drainage circulars.....	148 00
Postage.....	150 80
Total.....	\$935 71

In addition to the usual tables presented relating to the acreage, condition and yield of the various crops grown in the state and given in previous reports, the important facts suggested by the tables and contained in the introduction to the several crop reports are presented herewith and recommended for publication.

JAMES R. SCOTT,
GEO. S. HASKELL,
S. D. FISHER,
Committee.

CROP PROSPECTS.

[Consolidation of Reports returned to the Department of Agriculture June 1, 1879.]

[The basis upon which estimates of the area of the growing crops and number of farm animals are made for the crop reports of this Department, is the last assessment, as reported to the auditor. The acreage, or number of live stock for the previous year, as reported by correspondents, is used early in the season and until the returns from assessors can be made available.]

SEASON.

The season has been cold and dry, and vegetation has not made the usual growth. There has been general complaint of want of rain during the spring. The prevailing drouth has most seriously affected the prospect for oats, spring wheat, meadows and pastures. The season has been favorable for the cultivation of crops, and the low temperature and dry condition of the soil has not been favorable for the growth of weeds. The cornfields have seldom been as free from weeds, or in as good state of cultivation, as this season. The effects of the weather on the several crops is more specifically mentioned hereafter. Attention is invited to the comprehensive reports of meteorological observers for the five months ending May 31, 1879. The remarks of observers, in addition to the meteorological tables, give all matters of interest in connection with the weather.

FARMING PROSPECTS.

The increasing confidence of producers in the prospects for good crops, and for more remunerative prices for farm products, is apparent. The foreign demand for meats and breadstuffs is so active, and assuming such magnitude, as to give great encouragement to American agriculturists. The surplus crops for exportation can be increased indefinitely; and while the foreign demand for grain and meat is large, and will doubtless increase to an extent not now anticipated, it should not encourage cultivators to devote their attention entirely to special crops that seem most in demand at the present time. The supplies for the foreign trade are but a fraction of what is needed for home consumption, and the great diversity of supplies required for the increasing domestic trade should be first considered by our producers, who are noted for their capacity for glutting the market with any crops which have given moderately remunerative returns for a limited period. A diversified system of farming, with intelligent and economical management, will greatly advance the prosperity of Illinois farmers and make them comparatively independent of the fluctuations of the home and foreign markets.

FARM LABOR.

The depression which has existed in all branches of trade of late years has greatly increased the number of unemployed men in the cities and country. The great majority of men seeking work are industrious and faithful to the interests of their employers. The low prices of farm products has necessitated the practice of the utmost economy in farm expenses, and extra efforts are made by small farmers to do all their work, and dispense, as far as possible, with the extra help that has heretofore been considered indispensable. This economical practice on the part of a large number of farmers has made it more difficult for the most efficient men to find employment, even at the reduced wages paid. It is much easier to secure good, steady, experienced farm hands, than heretofore, and the relations existing between employers and employes are much more satisfactory than during the period when farmers were more dependent upon a large class of men infected with the migratory mania, and were content to render indifferent services for a few days at a place, to procure several meals and means to enable them to subsist for a limited period without work. The rates of wages vary, according to the services rendered, from \$15 00 to \$13 00 per month, and board furnished; where hands live and board at their own homes, the wages are from \$20 00 to \$25 00 per month. Very few farmers employ hands by the day; such laborers receive from seventy-five cents to \$1 00 per day, and board, and from \$1 00 to \$1 25 per day, without board.

CORN.

The season has been favorable for corn planting, and the dry weather has enabled farmers to plant a large area of low, flat lands, that for the past few years have been too wet to plow early enough in the spring. This additional land, with the usual corn acreage, and some unpromising fields of oats and spring wheat that have been plowed up and planted with corn, has increased the acreage, as compared with that of the previous year. The corn acreage of 1878 was 8,972,035 acres; for the present year 8,965,761 acres, an increase in favor of the present crop of nearly three hundred thousand (233,700) acres. The stand of corn is very uneven, and an unusual amount of replanting has been done. The growth of corn has been very slow; there is very general complaint of seed failing to germinate, owing to the long-continued cool, dry weather, and injury resulting from insects, moles, etc., but in a majority of cases, to defective seed. The cold, freezing weather of last winter left the ground in fine condition for plowing, and the early-planted corn is much more promising than the late planting. The best corn is on fall-plowed land, where the crop is more forward in growth, and in good, healthy condition. The manifest difference in favor of fall

plowing for corn will make this practice more general, where the favorable results are known. The late-plowed land is in many instances hard and cloddy, and harrowing and rolling has been the most general and satisfactory mode of culture. Drilling is strongly recommended by some of the most successful corn-growers, and the larger crops reported as the result of this over the common practice of planting in hills will induce many to make this experiment in the future. The bunching of seed is claimed as a disadvantage, in crowding the corn roots into a very limited space, thus preventing the large spreading root growth so essential to the full development of the stalk and ear, and to enable the stalk to more successfully withstand the frequent heavy winds which prostrate each year such a large percentage of the growing corn. The limited supply of old corn on hand, and the anticipation of paying prices for limited crop this season, owing to the unfavorable prospect for corn early in the season, occasioned by the dry weather, poor stand, and other causes noted above, have stimulated corn-growers to put forth every effort to increase the acreage and give the growing crop the best possible culture; and this extra exertion will insure a fair crop.

Since the late rains the corn prospect has greatly improved, and all interested are encouraged to expect a medium crop.

ACREAGE.—There is very little increase in the acreage of corn in the several counties, when compared with last season. Thirty-one counties have the same acreage; forty-nine counties report an increase ranging from 5 to 20 per cent. In four counties the decrease is 15 per cent.; seven counties, 10 per cent., and eleven counties 5 per cent. below that of 1878.

CONDITION.—The present corn crop compares favorably in condition with that of last season at corresponding date, June 1. The figures enclosed refer to the condition of the crop June 1, 1878. This report shows the condition to be up to a good average in nine (11) counties, and over an average in nine (8) counties; below an average in seventy-three (69) counties, ranging from 75 per cent. to 95 per cent. of an average condition; in eleven (12) counties from 60 to 70 per cent. of an average.

OLD CORN.

The present report of old corn in producers' hands was taken a month later than last year, (June 1, 1879—May 1, 1878), which covers thirteen months' consumption and shipment against twelve months named in the previous report. The old corn on hand May 1, 1878, was reported at 87,151,568 bushels from the previous crop of 1877 of 289,889,742 bushels—the 1878 crop of 250,560,810 bushels is nearly twenty millions (19,328,932) bushels less than the previous crop, while the amount on hand June 1, 1879, is only 45,661,070 bushels, a decrease of 41,590,498 bushels as compared with May 1, 1878. The decrease in the amount of corn on hand as compared with 1878 supply, is quite uniform throughout the State, indicating that the causes affecting the decrease are quite general and not confined to any locality. The 1878 crop was abundant, but the hard times induced, and low prices (22 cents per bushel at time of harvest) required a larger sale to meet obligations and current expenses. The long cold winter of 1878 and 1879, and the large supply of cheap corn, induced all to feed their stock more liberally. The largely increased hog crop of 1878 over that of the previous season (1877) required a larger proportion of this crop.

WINTER WHEAT.

The stand of winter wheat is generally good, and the prospect is encouraging for an average yield per acre. The acreage is larger than last season, and while the increase is mainly in the more prominent winter wheat-growing counties, there is an unusually large increase in counties north of what is commonly known as the winter wheat section. The corn belt of the State is dotted over with small patches of winter wheat, and a greater variety of crops than usual, and confirms the impression of the tendency of Illinois farmers towards a more diversified husbandry. The prevailing custom until late years, especially among large land-owners, of purchasing bread, meat, etc., the result of devoting entire attention to the production of a specialty, either corn, wheat, cattle or hogs, to the exclusion of other crops, is fast passing away, as the bankrupt estates, the result of this policy, are divided up, and pass into the hands of men who cannot afford to run the risk of the failure of a single crop, but feel the necessity of raising all the various supplies possible for home consumption. The early-seeded wheat is in the best condition, and fields seeded with new varieties or with wheat grown on different soil are much more promising than others. The care taken in preparing the ground and the mode of seeding has made itself more manifest this season than heretofore. Summer fallowing, early seeding and the use of the drill will largely pay for the time and cost expended in the promised increased yield and superior quality of the sample. The wheat harvest will be very early. The growth of straw, owing to the drouth, is generally short; the heads are plump and well filled, and the quality of grain very good. There is less complaint than usual of injury by insects, rust, storms or adverse causes. Some injury was sustained in localities by freezing out on exposed localities. Winter wheat stood the winter well, and was in extra condition until affected by the drouth this spring, which was quite general and long continued.

ACREAGE.—The steady increase in the acreage of winter wheat of late years is noticeable, and the area of this crop the last three years is as follows: 1877, 1,729,269 acres; 1878, 2,033,234 acres; 1879, 2,075,535 acres. Eighteen counties have the same acreage as last season; fifty counties report an increased acreage ranging from 5 to 76 per cent. above that of 1878; eighteen counties report the acreage less than last season, ranging from 5 to 20 per cent. below.

CONDITION.—The condition of winter wheat is up to a good average in ten counties; above an average in sixteen counties, and somewhat below an average in sixty-four counties.

SPRING WHEAT.

The acreage of spring wheat is about the same as in 1878. The slight decrease is mainly occasioned by the plowing up for corn of fields injured to such an extent by drouth and other

causes as not to pay for the harvesting. The season has been unfavorable for spring wheat, and only the early seeded, that has had the benefit of rains, will pay for cutting. The condition of spring wheat is up to a good average in only seven counties, and the condition is not above the average in one of the fifty-three counties reported. Twenty-four counties report the condition from 5 to 25 per cent. below an average. Fifteen counties report the condition from 30 to 35 per cent. below an average. Seven counties report the condition from 50 to 80 per cent. below an average. The acreage, compared with last season, is the same in sixteen counties; more, in nineteen counties, ranging from 5 to 50 per cent., and below in eighteen counties.

OATS.

The cold, dry season has been unfavorable for the oat crop, which will be very limited. The acreage is less than last season, and the condition, with scarcely an exception, below an average. The most promising fields were sown early, and the crop made satisfactory growth until the dry weather checked it. The late sown oats are generally a failure, a considerable portion of the most unpromising oat fields have been plowed up and planted with corn. Oats are heading out very low, and in many cases cannot be made available only as pastured.

CONDITION.—The condition is 50 per cent. below an average in twenty-nine counties; from 30 to 45 per cent. below an average in 43 counties; from 5 to 25 per cent. below an average in 23 counties, and up to an average in only one county.

ACREAGE.—The decrease in acreage is over one hundred thousand acres (118,964), as compared with the previous crop. Twenty-six counties report the same acreage; nine counties report an increase of from 10 to 30 per cent.; fifty-six counties report a decrease of from 5 to 25 per cent., and in eleven counties the decrease is from 35 to 55 per cent. below that of 1878.

MEADOWS.

Meadows have been seriously affected with the prevailing dry weather, and the prospect is anything but flattering for the hay crop. Clover meadows are in much better condition than the timothy meadows. Meadows pastured close in the spring will not, as a rule, pay for cutting. The recent rains came too late to materially improve the condition of meadows or increase the yield of hay in many portions of the State.

CONDITION.—Only one county in the State reports the condition of meadows up to a good average; in twenty-seven counties the condition is from 5 to 25 per cent. below an average; in fifty-six counties the condition is from 30 to 50 per cent. below an average; and in eight counties the condition is from 60 to 75 per cent. below a good average.

ACREAGE.—The decrease in the area of meadows is nearly two hundred thousand acres (189,732) less than in 1878. Twenty-six counties show the same acreage as last year; only five counties show a small increase over last season; in sixty-seven counties there is a decrease of from 5 to 25 per cent.; in four counties there is less meadow land by 35 per cent.

PASTURES.

Pastures have seldom been so short for such a long season in the spring. It has been necessary in some instances to feed stock running on pasture. Timothy pastures are very poor; clover much better. Pastures that have been seeded with a variety of grasses have given much better results. The returns from pastures is of great importance, and in extent of area only second to corn. The acreage of pastures is less than last season by 185,324 acres. Pastures are improving rapidly since the rains, and with continued good weather will soon be in fair condition.

CONDITION.—Only two counties report condition up to an average; thirty-six counties report the condition from 10 to 25 per cent. below an average; fifty-one counties the condition is from 30 to 50 per cent. below an average; the condition in four counties ranges from 55 to 70 per cent. below an average.

ACREAGE.—Forty-five counties report no change in acreage from last year; in thirteen counties there is a slight increase in the acreage; there is a decrease in forty-two counties ranging from 5 to 25 per cent.; one county reports 30 per cent. and one 45 per cent. below that of last season.

CATTLE.

The number of cattle on hand is about the same as last season, and the condition is good considering the short pastures. The losses sustained by the majority of cattle-feeders of this State of late years has not had the effect of materially reducing the number of cattle at least to the extent anticipated by some. The number of large herds of feeding cattle in the State is not as large as a few years ago. The large increase of dairy stock, and the additions to the small herds on medium sized farms which are increasing so rapidly each year, by the division of large estates, nearly meets the reduction in the number of beef animals of medium quality, which are more cheaply fitted for market in a milder latitude, on free government and low priced western land, without corn or hay. The best feeders in this State can only realize a fair margin on the best class of beef animals even on the unequaled rich soil of this State, which cannot be excelled in the production of corn and the most nutritious grasses. In 1878 the number of cattle in the State, according to the assessment, was 1,775,101—in 1879, 1,722,057 as reported by correspondents. The number of dairy cows has not increased over that of last season. The condition is medium.

HOGS.

The number of hogs on hand is 2,814,532—according to reports received at this department. It is less than 1877 (2,961,366) and 1878 (3,334,920). The small margin of profits to even the most successful feeders, and the serious loss to the great majority of farmers of this state from the small returns received from the 1878 hog crop, has had a very depressing effect on this industry, as is shown in the large decrease in the number of hogs now being prepared

for the 1879 market. Hogs are generally healthy, and in better than an average condition. The number of hogs marketed in 1877 was 2,115,804; in 1878, 2,345,391; the number for 1879 is reported at 2,013,718—a decrease of 331,673, or nearly 14½ per cent., as compared with the previous season.

SHEEP.

There is a slight decrease in the number of sheep reported for 1879 (762,788), as compared with the assessment (775,757) for 1878. The decrease in the assessed number of sheep has been quite uniform for the past five years. The assessments are as follows: 1874, 1,036,831; 1875, 923,468; 1876, 824,854; 1877, 777,105; 1878, 775,757; reported for 1879, 762,788. The decrease is largely with the breeds of sheep raised exclusively for wool, which cannot be grown in this state so as to successfully compete with sheep pastured on free government ranges, or low-priced western lands. The increase in the number of prime mutton sheep is not keeping pace with the demand, and the satisfactory returns received of late from the sale of good grain-fed mutton will encourage Illinois sheep breeders to give more attention to this remunerative branch of stock raising.

BROOM CORN.

This crop is reported from forty-two counties this season, against thirty-five counties last year.

ACREAGE.—The acreage is larger in five counties, and the same in twenty-three counties as in 1878; fourteen counties report a decrease, ranging from 5 to 25 per cent.; one county reports half the acreage of last season.

CONDITION.—The condition is about the same as last year. Only two counties report the condition above an average; in fifteen counties the condition is up to a good average. The condition is from 5 to 25 per cent. below an average in eighteen counties. In seven counties there will not be three-fourths of an average crop.

SPRING BARLEY.

In 1877 this crop was reported in thirty-one counties; in 1878, twenty-seven counties, and this year from twenty-five counties. Eleven counties report the acreage the same as last year, three counties report an increased acreage, and eleven counties a decreased acreage—5 to 30 per cent. below that of 1878. The condition is not over an average in a single county, and up to an average in only four counties. In twelve counties the condition is from 5 to 25 per cent. below an average, and in the remaining nine counties there will be less than three-fourths of an average crop, judging from present condition.

FLAX.

This crop is receiving more attention each year, and the large crop of last year has encouraged the seeding of a larger area. The 1878 crop of flax-seed of this state is estimated at one million bushels, and is probably not exceeded by that of any other state.

ACREAGE.—The acreage is much larger than last year. In 1878 the acreage was reported in thirty-one counties; this season in thirty-eight counties, nine of which report the acreage the same as last season; in twenty-one counties there is a very large increase over 1878, ranging from 10 to 85 per cent.; there is a slight decrease in three counties of from 5 to 10 per cent., and in one county the acreage is about one-fourth of last season.

CONDITION.—The condition is up to an average in four counties; above an average in two counties; in seventeen counties the condition is from 5 to 25 per cent. below an average; the condition in the remaining nineteen counties indicates less than three-fourths of an average crop.

COTTON.

This crop is reported in cultivation in only two counties. Last season the crop was reported in five counties. **ACREAGE.**—There is no change in the acreage from last report. Condition is 10 per cent. below an average in one county, and 20 per cent. below an average in the other county.

WINTER RYE.

This crop is extensively grown in this state, and is reported in nearly every county. The acreage is about the same as last season.

CONDITION.—The condition is better than an average in eighteen counties; above an average in three counties; 5 to 25 per cent. below an average in fifty-seven counties; there will not be three-fourths of an average in sixteen counties; there is no report from eight counties.

TOBACCO.

The returns represent twenty-six counties growing tobacco this season; in 1878, thirty-four counties; in 1877, forty-two counties were reported; ten counties report the same acreage as last year; two counties report an increase of 10 per cent.; five counties report from 20 to 25 per cent. less; in nine counties the acreage is less than three-fourths of the area of the previous year.

CONDITION.—The condition of the growing crop is above an average in two counties; an average in twelve counties; three-fourths of an average, or better, in four counties; and less in the remaining eight counties.

CASTOR BEANS.

Ten counties report this crop—one more than last season. The acreage is the same in four counties as last season, and two counties report an increase. The area is less than in 1878 in the remaining four counties. The condition is up to a good average in four counties; 10 per cent. below in two counties; 20 per cent. below in two counties; and 25 and 35 per cent. below in the remaining counties.

IRISH POTATOES.

This crop is reported in every county in the state. The acreage compares favorably with that of the previous year. Thirty-two counties report larger acreage; forty-four counties the same as in 1878; the acreage is from 5 to 25 per cent. less than last year in twenty-four counties; one county is as low as 65, and one 60 per cent. of the previous acreage. The condition is good, considering the season, and is up to a good average in twenty-three counties; above an average in one county; from 5 to 25 per cent. less than an average in sixty-four counties; and less than 75 per cent. of an average in fifteen counties.

SWEET POTATOES.

The acreage is the same as last year in thirty-three counties; and more in three counties. The acreage is from 5 to 25 per cent. less than 1878 in forty-two counties, and less in three counties, while twenty counties make no report.

CONDITION.—Five counties report the condition better than an average. In twenty-three counties the condition is up to a good average; 5 per cent. below an average in seven counties; 10 per cent. below an average in sixteen counties, and 15 to 25 per cent. below in seventeen counties, and less than three-fourths of an average prospect in fourteen counties.

SORGHUM.

This crop is receiving more attention than heretofore, and is more generally cultivated throughout the state than for some years. The acreage is reported in eighty-one counties—nine more than last year; eighteen counties show an increased acreage; thirty-two counties the same acreage; 5 to 25 per cent. less in eighteen counties; the acreage is less than three-fourths that of the previous year in nine counties, and twenty-one counties make no report. The condition is up to a good average in twenty-two counties; above an average in one county; from 5 to 25 per cent. below an average in forty-two counties, and indicates less than three-fourths of a crop in sixteen counties.

FRUIT PROSPECTS.

[There is a general complaint regarding fruit prospects, and very few localities report a fair promise of an average crop of the different varieties of fruit.]

APPLES.

The apple bloom this spring was up to an average in only fourteen counties, and above an average in only nine counties. In forty-four counties the bloom was from 5 to 25 per cent. below an average. The bloom was less than half an average in fourteen counties. The remaining counties report bloom from 25 to 50 per cent. below an average. Only one county reports the condition more than an average, and in one county the fruit is in good average condition. The condition is from 5 to 25 per cent. below an average in twenty-nine counties. In twenty-eight counties the condition is 50 per cent. and less than an average. The remaining counties promise from half to three-fourths of an average.

PEACHES.

The peach crop is almost a failure throughout the state. Only three counties report an average amount of bloom. One county reports 25 and one 35 per cent. less than an average amount of bloom. The bloom was so light as not to be considered worthy of mention in thirty-five counties. In sixty-two counties there was not half the usual bloom. The condition is not up to an average in a single county, and there is no prospect for peaches in forty-five counties. In only three counties is the condition promising for more than half a crop.

PEARS.

One county reports more than an average amount of bloom; sixteen counties an average; the bloom was from 5 to 25 per cent. less than usual in thirty-four counties; there was from half to three-fourths of an average bloom in twenty-seven counties, and less than half an average in thirty-one counties, while eight counties make no report.

CONDITION.—The condition is up to an average in five counties; in twenty-two counties the condition is from 5 to 25 per cent. below an average; there is a prospect of from half to three-fourths of an average crop in thirty-four counties; there will not be half a crop in the remaining counties.

PLUMS.

The bloom was not good, only three counties reporting more than an average; twenty-two counties are an average; in thirty-five counties the bloom was from 5 to 25 per cent. below an average; from half to three-fourths of an average in sixteen counties, and less than half an average in the remaining counties reporting bloom; twelve counties make no report.

CONDITION.—The condition is up to an average in nine counties; in twenty-two counties the condition is from 5 to 25 per cent. below an average; the condition in twenty-four counties indicates from 50 to 75 per cent. of an average crop; fifteen counties make no report of condition; in the remaining thirty-two counties there will not be half a crop.

CHERRIES.

Only two counties report the bloom above an average. In twenty counties the bloom was an average. In fifty-one counties the bloom was from 5 to 25 per cent. below an average. In twenty-six counties there was from half to three-fourths of an average bloom. The bloom was less than half an average in twenty-three counties. Condition is up to an average in only seven counties. In twenty-six counties the condition is from 5 to 25 per cent. less than an average. In fifteen counties the condition is from 25 to 50 per cent. below an average. The remaining fifty-four counties promise less than half a crop.

GRAPES.

The bloom of grapes is slightly above an average in four counties; an average in twenty-six counties. In fifty-four counties the bloom was 5 to 25 per cent. below an average; from 25 to 50 per cent. below in seventeen counties; less than half the usual bloom in seventeen counties. One county reports only 45 per cent. of an average bloom.

CONDITION.—The condition is above an average in five counties; an average in twenty-two counties, 5 to 25 per cent. less in fifty-eight counties, and less than three-fourths of an average in condition in seventeen counties.

STRAWBERRIES.

The bloom was above an average in six counties; an average in fifteen counties; from 5 to 25 per cent. below in sixty-eight counties; from 25 to 50 per cent. below in ten counties, and less than half an average amount of bloom in the remaining counties.

CONDITION.—The condition in seven counties is up to an average; 5 to 25 per cent. below in fifty-five counties; from 25 to 50 per cent. below in twenty-six counties, and below half an average condition in the remaining seven counties reporting; two counties make no report.

RASPBERRIES.

Only one county reports the bloom over an average; in twenty-three counties the bloom was up to a good average; from 5 to 25 per cent. below in forty counties; from 25 to 50 per cent. below in five counties; and less than half an average amount of bloom in the remaining counties; three counties make no report.

CONDITION.—The condition is over an average in one county; an average in fifteen counties; 5 to 25 per cent. below in thirty-eight counties; from 25 to 50 per cent. below in twenty-six counties, and below half an average in the remaining counties; three counties make no report.

BLACKBERRIES.

One county reports an average amount of bloom; in five counties the amount was up to a good average; from 5 to 25 per cent. below in fifteen counties; from 25 to 50 per cent. below in fifteen counties, and less than half an average amount of bloom in the remaining counties reporting; thirteen counties make no report.

CONDITION.—The condition is up to a good average in six counties; 5 to 25 per cent. below in twelve counties; 25 to 50 per cent. below in thirty-three counties; and below half an average in the remaining counties noted; fifteen counties have not reported condition.

GOOSEBERRIES.

The amount of bloom is over an average in one county; in six counties the bloom was up to an average; the bloom was from 5 to 25 per cent. below an average in forty-six counties; from 25 to 50 per cent. below in thirty-five counties; and less than half an average amount of bloom in the remaining counties.

CONDITION.—The condition is above an average in one county; an average in seven counties; 5 to 25 per cent. below in fifteen counties; 25 to 50 per cent. below in thirty-nine counties; and below half an average in the remaining counties; one county not reporting.

CURRANTS.

One county reports bloom above an average; in eight counties the bloom was an average; the bloom was from 5 to 25 per cent. below an average in fifty counties; from 25 to 50 per cent. below in twenty-two counties, and less than half an average amount of bloom in the remaining counties, not including four counties not reporting.

CONDITION.—The condition is better than an average in one county; an average in five counties; 5 to 25 per cent. below in 10 counties; 25 to 50 per cent. below in thirty-eight counties; and below half an average in the remaining counties noted; four counties make no report.

CROP PROSPECTS.

[Consolidation of Reports returned to the Department of Agriculture July 1, 1879.]

SEASON.

The season during the month of June has been favorable for the growing crops. Occasional showers and warm weather have induced a very rapid growth of the crops and aided materially in advancing the condition of corn to near that of average seasons at corresponding date.

The distribution of rain has been quite general over the State during the past month, and has afforded much needed relief from the continued drouth, which seriously threatened the crops in many portions of the State.

There are comparatively few localities in the State that report conditions unfavorable to the growing crops.

Attention is invited to the Meteorological table published in this Circular, which gives detailed information concerning the temperature, rainfall, etc., during the month of June.

CORN.

The improvement in the condition of corn during the month of June, is without precedent. The continued drouth, which generally prevailed over the State to the last of May, was followed by frequent copious showers and hot weather, which has greatly promoted the growth of corn. There is scarcely a locality that does not report a most encouraging prospect for at least an average yield of corn, while the returns from a great majority of counties indicate that the yield will be much above a good average. The dry spring enabled farmers to plant a large area of low wet lands that have generally been too wet to plow in time for corn, and on this kind of land is to be found the most vigorous and promising growth of the crop. The area of the present corn crop is nearly nine million (8,968,781) acres, which is the largest breadth of corn ever planted in the State. The above acreage will be slightly increased in Central and Southern Illinois by the planting of land from which small grain has just been harvested; while this late and unusual planting may not mature and make marketable corn, it will furnish good feed that will partially supply the deficiency occasioned by the limited crop of hay. This late planting in some instances was reported six inches high on July 3d, and in most promising condition for a good yield of marketable corn. As over one-sixth of all the corn produced in the United States is grown on the rich prairies of Illinois, the condition of the growing crop is closely scrutinized by home and foreign consumers and dealers. The present condition of corn for the State is about 15 per cent. better than for the corresponding period (July 1) of 1878. The crop for the previous year was 250,580,810 bushels. There are probable contingencies, such as drouth, storms, etc., which may reduce the present prospects, and it would not be safe to estimate so large an increase over the previous crop, as indicated by the comparative conditions named above. With seasonable weather the increase of the present corn crop over that of the previous year will be nearly ten per cent.

WINTER WHEAT.

Winter wheat harvest commenced earlier than usual, and the crop has been saved in good condition. Considerable threshing has been done, and the yield is reported better than an average. The quality is uniformly good, and purchasers make no distinction for quality, paying the farmers the same price for all that is offered. The straw is short and bright, and the heads well filled with plump and choice quality of grain. The condition of winter wheat has improved since last circular, and the unfavorable reports concerning the yield or quality are rare exceptions.

WINTER RYE.

Winter rye will make a much better crop than anticipated the first of June; thirty-nine counties, against eighteen last month, report the condition up to a good average; six counties report the condition above an average three more than last month. The previous report showed the condition from five to twenty-five per cent. below an average in fifty-seven counties, while only forty counties now report the condition as low.

SPRING WHEAT.

The condition of spring wheat is above an average in only two counties in the State, and an average in four counties. The condition in thirty-two counties is from 5 to 25 per cent. below an average. In the remaining seventeen counties, the condition ranges from 20 to 70 per cent. of an average. It will be seen from the above, that the prospects for even a medium crop of spring wheat are discouraging. The drouth has been the principal cause affecting the spring wheat crop; there has been but little complaint of injury by insects, etc.

SPRING BARLEY.

The condition of this crop is reported from thirty-eight counties—thirteen more than named in the June report. The condition is up to an average in eleven against seven counties last month. The condition is from 5 to 25 per cent. below an average in twenty-three counties against twelve counties last month. In four counties the condition is as follows: one 10 per cent., one 50 per cent., and two 70 per cent. of an average.

OATS.

The condition of oats has improved somewhat during the past month, but the prospects for a medium crop are not encouraging. The cold dry season and other causes affecting the crop, and named in the previous report, have not been entirely overcome by the favorable weather of the past month. The straw is very short, and in many instances the crop will not pay for harvesting. The condition is 5 per cent. above an average in one county; an average in one county; from 5 to 25 per cent. below an average in fifty-one counties; there will be less than half a crop in fourteen counties, and half to three-quarters of a crop in thirty-seven counties.

MEADOWS.

The condition of meadows has greatly improved during the past month. The present prospects are favorable for nearly three-fourths of an average yield per acre of hay, which is of superior quality. The improvement in condition, as compared with the previous report, may be seen by the following; the figures enclosed refer to the June report. The condition is 5 per cent. better than an average in one (0) county; an average in three (1) counties; and from 5 to 25 per cent. below an average in forty-five (27) counties. There will be less than three-fourths of an average crop in the remaining counties, ten of which promise 70 per cent., thirteen counties 65 per cent., and eight counties 60 per cent. of an average crop.

PASTURES.

Pastures, while generally reported short, are furnishing over three-fourths of an average crop of grass, of the most nutritious quality. Stock is generally reported in fair condition. The copious showers of June have started the growth of grass, which is improving rapidly, and, with seasonable weather, will soon be up to an average. The condition is reported slightly above an average in one county, an average in ten counties; 5 per cent. below an average in seven counties; 10 per cent. below an average in thirteen counties; 15 per cent. below an average in ten counties; 20 per cent. below in thirteen counties; and 25 per cent. below in twelve counties; in the remaining counties the condition is below 75 per cent. of an average.

BROOM CORN.

The condition of broom corn has improved very much during the month of June, and the prospects are more encouraging for a good crop than at time of previous report. The figures enclosed refer to the June report. The condition is above an average in five (0) counties, an average in twenty-eight (15) counties, and from 5 to 25 per cent. below an average in eighteen (12) counties. In one (7) county the crop will be less than three-fourths of an average. The condition is reported in four counties not included in last crop circular.

FLAX.

Forty-one counties report the condition of this crop—three more than last month. The condition is somewhat improved as compared with last month's circular, but the unfavorable weather early in the season has injured the prospects for even a moderate crop. Two counties report the condition above an average; six counties report good prospect for an average crop; in twenty-one counties the crop will be short 5 to 25 per cent.; in twelve counties the crop will be from 25 to 50 per cent. below an average.

COTTON.

This crop is reported in only three counties, all of which report the condition up to a good average, with reasonable prospects for an ordinary crop.

SORGHUM.

Sorghum is reported as receiving more or less attention in eighty-three counties—two more than noted in last circular. The improved condition, as compared with last month, is marked as noted—the figures enclosed are from the June 1 report. The condition of sorghum is better than an average in six (1) counties—an average in thirty-eight (22) counties, and from 5 to 25 per cent. below in thirty-six (42) counties. Two counties report the condition (25-55) very unfavorable.

IRISH POTATOES.

The condition of this crop is much more promising than June 1st. The condition promises more than an average crop in twenty-five (1) counties; an average in twenty-six (26) counties; and from 5 to 25 per cent. below an average in forty-four (64) counties. Only five counties report the condition below 75 per cent. of an average.

SWEET POTATOES.

This crop is reported in all except ten counties in the State, and the condition compares favorably with that of previous years at corresponding date. The condition promises more than an average crop in three counties, and an average crop in thirty-five counties. The crop, from present indications, will be from 5 to 25 per cent. below an average in fifty-one counties; in the remaining three counties there will be less than three-fourths of an average crop.

TOBACCO.

Thirty-six counties, against twenty-six counties in June circular, are reported in the returns for July. The condition of the crop has improved during the past month, and about one-half the counties in the State cultivating tobacco will realize an average crop; in fifteen counties the crop will be somewhat below an average, ranging from 5 to 25 per cent. In one county the condition is 50 per cent. below, and in three counties 40 per cent. below an average.

CROP PROSPECTS.

[Consolidation of Reports returned to the Department of Agriculture August 1, 1879.]

WHEAT.

The present winter wheat crop is the largest ever produced in the State, and has never been excelled, if equaled in good quality. The importance, as well as the increased attention given to this crop of late years by farmers in this State, can readily be seen by the following table, which gives the average yield and value of the crop (spring and winter) for the past twenty years:

Year.	Number of acres.	Av. y'd per acre bushels.	Bushels produced.	Price per bushel.	Total value.	Val. per acre.
1860	2,109,471	11.3	23,837,023	85	\$20,261,469	\$9 60
1861	2,109,471	11.3	23,837,020	71	16,924,284	8 02
1862	2,300,964	14	32,213,500	76	24,482,282	10 64
1863	2,617,347	12	31,408,163	\$1 05	32,978,571	12 59
1864	2,328,763	14.3	33,371,173	1 55	51,725,818	22 21
1865	2,296,977	11	25,268,745	1 09	27,541,732	12 00
1866	2,196,263	13	28,551,421	1 93	55,104,243	25 09
1867	2,456,140	11.4	28,000,000	1 97	55,160,000	22 45
1868	2,483,478	11.5	28,560,000	1 20	34,272,000	13 80
1869	2,607,142	11 2	28,200,000	76	22,192,000	8 51
1870	2,259,583	12	27,115,000	94	25,488,100	11 28
1871	2,050,081	12.3	25,216,000	1 18	29,754,880	14 51
1872	2,042,231	12.1	24,711,000	1 23	30,394,530	14 88
1873	2,104,963	13.5	28,417,000	1 10	31,258,700	14 84
1874	2,619,304	11 5	30,122,000	86	25,904,920	9 88
1875	2,600,000	10 5	27,300,000	91	24,843,000	9 55
1876	2,530,430	9.3	23,440,000	93	21,799,200	8 64
1877	1,977,745	16.4	32,490,556	1 15	38,002,082	19 22
1878	2,324,755	14.6	33,883,398	80	27,059,480	11 64
1879	2,440,809	18½	45,417,661	87	39,930,639	16 36

It will be observed that the present acreage of 2,440,809 has been exceeded by the wheat acreage of 1863, 1867, 1868, 1869, 1874 and 1875. The present average yield per acre, 18½ bushels, is the largest on record. The extra care in seeding last fall has amply repaid the wheat grower for this additional expense and labor, in the largely increased yield reported in such cases. The exceptionally large average yields reported generally consist of new varieties of wheat recently introduced. The 1879 crop is over forty-five million (45,417,661) bushels, or over eleven million (11,534,263) bushels more than any preceding crop. The value of the present crop is nearly forty millions of dollars (\$39,930,639), which, owing to the low average price (87c) per bushel, when compared with former years will not furnish the producer as large re-

turns as the 1864, 1866 and 1867 crops. The 1864 wheat crop, of 33,371,173 bushels, at \$1 55 per bushel, returned the producer over fifty-one millions of dollars (\$51,728,818). The 1866 wheat crop, of 28,551,421 bushels, valued at \$1 93 per bushel, brought \$55,104,243; and the following crop (1867), of twenty-eight million bushels, at \$1 97, was valued at \$55,160,000. The price per bushel was lower than that of the present season in 1860 (85), 1861 (71), 1862 (76), 1869 (76), 1871 (86) and 1878 (80).

SPRING WHEAT.

The acreage of spring wheat (303,736) is but little in excess of that of the previous year (302,048). The average yield per acre (11 bushels) of spring wheat is much below that of winter wheat (19½ bushels). The drouth during the growing season, and the injury in many localities by chinch-bugs, has reduced the yield much below that of a good average. The quality is good in counties where the crop was not injured by chinch bugs and unfavorable weather. The spring wheat crop of 1878 was 3,870,251 bushels; the present crop is 3,376,409, a decrease of nearly half a million bushels (493,842). The 1878 crop was valued at \$3,189,203, while that of the present year is valued at \$2,663,882; a decrease in one year of over half a million dollars (\$525,321).

HAY.

The hay crop has generally been saved in good condition; the average yield per acre is much below that of a term of years; the quality is very good and will largely make up for the limited crop. The 1879 acreage of meadows is only 2,161,760 acres, while that of the previous year was 2,368,854 acres, a decrease of 207,094 acres, much of which was seeded to wheat. The present crop, of 2,578,736 tons, is the smallest for the past five years, and is 1,676,735 tons less than that of the previous year. The drouth over the greater portion of the State during the spring and summer reduced the yield of timothy meadows materially, a large area of which hardly paid the expense for harvesting. The yield of meadows of clover and timothy were somewhat better, but very light, when compared with an average yield. The weather was most favorable for saving the hay crop, and numerous reports confirm the excellent quality of the hay and the good order in which it was saved. The 1878 crop was valued at \$19,994,341; the 1879 crop, at \$16,428,012, which is the lowest estimate for the hay crop during the last twenty years, as shown by the following table:

Year.	Number of acres.	A v. y'ld per acre in tons.	Tons produced.	Price per ton.	Total value	Val. per acre.
1860	1,258,548	1.41	1,774,554	\$9 90	\$17,568,084	\$13 95
1861	1,258,548	1.41	1,774,554	9 90	17,568,084	13 95
1862	1,318,724	1.7	2,293,831	8 00	18,342,648	13 60
1863	1,161,707	1.5	1,742,552	11 50	20,039,848	17 25
1864	1,444,433	1.5	2,168,725	15 33	33,215,894	23 00
1865	1,733,380	1.5	2,600,070	9 30	24,180,651	13 95
1866	1,591,880	1.47	2,340,063	9 27	21,692,384	13 62
1867	1,778,000	1.5	2,667,000	9 73	25,949,910	14 59
1868	1,905,000	1.4	2,667,000	10 00	26,670,000	14 00
1869	1,761,008	1.59	2,800,000	9 87	27,636,000	15 69
1870	1,605,332	1.18	1,895,080	10 74	20,352,300	12 67
1871	1,403,063	1.31	1,838,000	10 05	18,471,900	13 16
1872	1,428,888	1.35	1,928,000	8 47	16,297,600	12 78
1873	1,880,000	1.25	2,350,000	8 75	20,562,500	10 93
1874	1,860,417	1.32	2,432,500	10 49	25,418,250	12 58
1875	2,226,277	1.37	3,050,000	9 73	29,676,500	13 33
1876	2,500,000	1.40	3,500,000	6 68	23,380,000	9 35
1877	2,443,360	1.65	4,044,987	5 43	21,971,369	9 99
1878	2,368,854	1.45	4,255,471	7 70	19,994,341	8 44
1879	2,161,760	1.20	2,578,736	6 37	16,428,012	7 60

RYE.

The rye crop ranks fourth in extent of area of the cultivated crops grown in the State. The following table gives the area, yield and value of this crop for the past twenty years. The statistics previous to 1877 are compiled from the reports of the National Department of Agriculture. The assessor's returns are used as a basis for the last three years. The area of rye reported for 1879 is 235,073 acres; the area for the previous year was 252,768, showing a decrease for the present season of 17,695 acres when compared with 1878. The 1879 acreage, with one exception (1878), is the largest reported, and the average yield per acre has not been equaled except in 1872. The 1879 crop of 4,238,824 bushels is the largest ever produced in the State, and the quality is good. The present crop is valued at \$1,991,404, and has only been exceeded by the crop of 1877, which was estimated at \$2,103,800.

RYE.

Year.	Number of acres.	Av. y'd pr. acre, bushels.	Bushels produced.	Price per bushel, cents.	Total value.	Value pr. acre.
1860.....	59,455	16	951,281	49	\$466,127	\$ 7 87
1861.....	59,455	16	951,281	44	323,435	5 44
1862.....	49,086	20	981,322	43	421,968	8 60
1863.....	55,199	16	893,190	74	653,561	11 84
1864.....	55,671	15	850,071	1 01	862,822	15 22
1865.....	51,004	16½	833,069	49	410,977	8 06
1866.....	42,721	16 6	668,455	79	526,500	12 32
1867.....	42,600	15	639,000	1 19	760,410	17 85
1868.....	39,814	16 2	645,000	93	599,850	15 06
1869.....	46,876	14 4	675,000	64	432,000	9 22
1870.....	136,240	16 4	2,235,000	60	1,341,000	9 34
1871.....	122,039	17 8	2,190,000	56	1,226,400	9 99
1872.....	122,154	18 1	2,211,000	50	1,105,500	9 05
1873.....	134,064	15 5	2,078,000	58	1,205,240	9 00
1874.....	132,208	15 4	2,036,000	71	1,443,560	10 93
1875.....	157,572	16 5	2,600,000	61	1,586,000	10 06
1876.....	161,250	16	2,550,000	58	1,486,400	9 28
1877.....	231,972	16	3,825,091	55	2,107,800	9 10
1878.....	253,768	11	2,915,240	41	1,195,595	4 77
1879.....	285,073	18	4,238,324	47	1,991,404	8 47

OATS.

The dry cold spring injured the prospects for oats, which, in localities, were too short to bind. The crop in some sections was too light to cover the cost of harvesting. The crop is much better than expected; was saved in fine condition, and is of medium good quality. The 1879 area is 1,631,139 acres; the 1873 acreage of oats was 1,757,953—a decrease of 126,814 acres this season, when compared with the previous crop. The average yield per acre of oats is 33½ bushels—an increase of three bushels per acre over that of the previous year. The present crop of 54,664,569 bushels exceeds the 1873 yield of 53,424,555 bushels by 1,240,014 bushels. The average price per bushel of 22 cents is two cents in advance of the price last season at corresponding date. The present crop, valued at \$12,059,162, exceeds that of 1873, valued at \$10,684,911, by \$1,374,251.

The following table, giving the area, yield and value of the oat crop for the past twenty years is given below for the convenience of comparison. The statistics for the last three years is made up from the returns of assessors—the returns for the previous years are compiled from the statistical reports of the National Department of Agriculture:

Year.	Number of acres.	Av. y'd pr. acre, bushels.	Bushels produced.	Price per bushel, cents.	Total value.	Value pr. acre.
1860.....	543,572	28	15,220,029	26	\$3,957,207	\$ 7 28
1861.....	543,572	28	15,220,029	19	2,891,805	5 33
1862.....	894,610	20	17,892,200	24	4,294,128	4 80
1863.....	820,039	24	19,681,420	56	11,021,565	13 44
1864.....	779,003	31 1-6	24,273,751	61	14,806,988	19 00
1865.....	802,520	35	28,089,197	24	6,741,167	8 40
1866.....	883,952	34	30,054,370	33	9,917,942	11 21
1867.....	1,068,372	30 1	32,158,000	49	15,757,420	14 74
1868.....	1,018,150	31 9	32,479,000	39	12,668,810	12 44
1869.....	1,099,261	32 5	35,726,000	37	13,218,620	12 02
1870.....	1,480,846	28	38,502,000	32	12,320,640	8 32
1871.....	1,168,202	33 1	38,502,000	28	10,780,560	9 28
1872.....	1,178,196	36 6	43,122,000	19	8,198,180	6 95
1873.....	1,178,668	30	35,360,000	28	9,900,800	8 31
1874.....	1,618,514	17 5	31,324,000	45	14,320,800	7 87
1875.....	2,272,727	33	75,000,000	23	21,000,000	9 24
1876.....	2,400,000	20	48,000,000	26	12,480,000	5 20
1877.....	1,556,194	39	61,145,983	26	16,299,647	10 45
1878.....	1,757,953	30 5	53,424,555	20	10,684,911	6 07
1879.....	1,631,139	33 5	54,664,569	22	12,059,162	7 39

BARLEY.

The following table gives much interesting information concerning the barley crop of the State during the last twenty years. The statistics prior to 1877 are taken from the report of the National Department of Agriculture, and largely exceed the official returns since made by assessors. Notwithstanding the increased efforts of brewers and others interested in the production of barley, the area, as will be seen below, is decreasing from year to year:

BARLEY.

Year.	Number of acres.	Av. y'd pr. acre.	Bushels produced.	Price per bushel.	Total value.	Value pr. acre.
1860.....	45,058	23	1,036,334	\$0 49	\$507,803	\$11 26
1861.....	45,059	23	1,036,334	26	269,446	5 97
1862.....	32,657	26	1,175,651	60	705,990	21 60
1863.....	54,775	22	1,203,042	95	1,144,790	20 81
1864.....	50,520	22½	1,144,790	1 37	1,568,862	31 04
1865.....	50,425	21	1,058,931	56¾	600,943	11 91
1866.....	41,510	25	1,047,753	68	705,672	17 00
1867.....	44,663	22 3	996,000	1 28	1,274,880	28 52
1868.....	37,829	25 8	976,000	1 36	1,327,360	35 08
1869.....	59,808	20 9	1,250,000	90	1,125,000	18 81
1870.....	111,600	20	2,232,000	62	1,383,840	12 40
1871.....	80,509	25.5	2,053,000	52	1,067,560	13 26
1872.....	79,425	26 1	2,073,000	55	1,140,150	14 35
1873.....	99,130	23	2,280,000	95	2,166,000	21 85
1874.....	119,302	17 2	2,052,000	97	1,990,440	16 68
1875.....	113,281	25 6	2,900,000	70	2,030,000	17 92
1876.....	124,293	17 7	2,200,000	50	1,100,000	8 85
1877.....	44,982	18 5	842,942	47	396,182	8 80
1878.....	29,301	24	703,294	56	398,844	10 19
1879.....	25,494	22¾	578,911	46	265,951	10 43

CORN.

The condition of corn has greatly improved during the past month, and with continued favorable weather will make much more than an average crop. The condition is above an average in 62 counties—23 of which report the condition 5 per cent. above an average—23 counties 10 per cent. above, 8 counties 15 per cent. above—5 counties 20 per cent. above—2 counties 25 per cent. above, and one county 50 per cent. above. An average in 15 counties. In 23 counties the condition is from 5 to 25 per cent. below an average, in 15 of which the condition is from 5 to 10 per cent. below, and only two counties report the condition as low as 60 per cent. of an average. The injury from chinch bugs in fields adjoining small grain, is reported in several counties, but no serious results, except with the late planting, are anticipated.

BROOM CORN.

The condition of broom corn has improved during the past month, and promises to make an extra crop, both in quality and yield. The crop is reported as receiving more or less attention in 57 counties—9 other counties are engaged in the culture of broom corn to a limited extent. The condition is from 5 to 25 per cent. above an average in 7 counties—an average in 35 counties, and from 5 to 25 per cent. below in 14 counties—in one county the condition promises but little more than half a crop.

SORGHUM.

There is considerable attention given to the culture of this crop, and the area is much larger than is generally supposed. In 1877 over nineteen thousand (19,335) acres were reported as yielding over one million (1,227,164) gallons of syrup, valued at 47c. per gallon, or over half a million of dollars (\$567,767 08). In 1878 the area of this crop, as returned by assessors, was 14,460 acres, yielding 1,141,127 gallons of syrup, and valued at \$536,329 61. The condition of the growing crop is from 5 to 25 per cent. above an average in 14 counties—an average in 35 counties, and from 5 to 25 per cent. below an average in 33 counties—three counties report condition at 70, 80 and 50 per cent. of an average.

FLAX.

The profit attending the culture of flax in sections of the State where the soil and other conditions are favorable, has attracted the attention of many farmers, who are experimenting with the crop. The crop is cultivated in over 40 counties in the State; 39 of which report the condition favorable. In two counties the condition is above an average; 19 counties the condition is up to an average; the condition is from 5 to 15 per cent. below an average in 19 counties; in 9 counties from 30 to 40 per cent. below an average. In 1877 the flax area of the State was 89,504 acres, producing 6,178,693 pounds of fibre and 693,839 bushels of seed. In 1878 the acreage and yield of this crop, as returned by assessors, is as follows: 96,179 acres—5,509,513 pounds of fibre, and 957,762 bushels of seed.

COTTON.

The condition of cotton is up to a good average in two counties, and 10 per cent. below an average in one county.

TOBACCO.

Prospects for a good crop of tobacco have improved during the past month. In three of the 47 counties reporting, the condition is above an average; in 25 counties there will

be an average crop; the condition is from 5 to 25 per cent. below an average in 14 counties. Two counties report 65 per cent. of an average condition. One county the condition is as low as 25 per cent. of an average.

PASTURES.

There has been some improvement in the condition of pastures during the past month. In many counties there has not been sufficient rain to start the growth of grass, which has been so short and dry as to furnish but little pasturage. The pasturage in localities having abundant rains have greatly improved, and are making rapid growth. The condition is better than an average in four counties; up to an average in 10 counties; from 5 to 25 per cent. below an average in 64 counties; in 25 counties the condition is from 50 to 75 per cent. of an average; in the remaining nine counties the condition is below 50 per cent. of an average.

FRUIT CROP.

APPLES.—There will be but little over one-half a crop of apples realized; the quality is not the best.

PEACHES.—The peach crop is a failure in the majority of counties in the State. Only thirty counties report any peaches, and in these there will not be one-third of a crop.

PEARS.—There will be a limited crop of pears in all but sixteen counties in the State; in the eighty-six counties reporting condition there is a prospect for nearly two-thirds of an average crop.

PLUMS.—Twenty-nine counties make no report of the condition of plums; one county reports more than an average crop; thirteen an average crop; in the remaining counties the crop will be from 5 to 85 per cent. below an average; there will not be half an average crop in the counties reporting.

GRAPES.—The condition of grapes is above an average in six counties; an average in thirty-eight counties; the condition is from 5 to 25 per cent. below an average in forty-four counties; and from 25 to 75 per cent. below an average in the remaining counties.

QUINCES.—Quinces are reported in forty-eight counties, only nine of which report an average condition; the condition is from 5 to 25 per cent. below an average in twenty counties; the remaining nineteen counties from 30 to 80 per cent. below an average.

IRISH POTATOES.

The condition of this crop has not improved during the past month, as will be seen by the following: The figures giving condition at date of last monthly report are enclosed. The condition is above an average in fourteen (25) counties; an average in fifteen (26) counties; from 5 to 25 per cent. below an average in fifty-four (84) counties. Nineteen (5) counties report the condition below 75 per cent. of an average.

SWEET POTATOES.

The condition of sweet potatoes is from 5 to 25 per cent. above an average in five counties; the condition is up to an average in forty-five counties; in fifteen counties the condition is 5 per cent. below an average; in twenty-one counties the condition is from 10 to 25 per cent. below an average; there will be less than three-fourths of an average crop in seven counties; nine counties make no report.

FIELD PEAS.

The condition of this crop is above an average in two counties; an average in twenty-four counties; in seven counties the condition is somewhat below an average.

FIELD BEANS.

The condition of field beans is above an average in three counties; an average in fifty-six counties. The condition is from 5 to 25 per cent. below an average in sixteen counties. The condition is 25, 65 and 70 per cent. of an average in the three remaining counties reporting. Twenty-four counties make no report.

TURNIP AND OTHER ROOT CROPS.

The acreage of root crops is larger than last season in seven counties; the same in fifty-nine counties; the acreage is from 5 to 25 per cent. less in sixteen counties; and decreased one-half in two counties; eighteen counties make no report. The condition of root crops is above an average in four counties; an average in forty-seven counties; the condition is from 5 to 25 per cent. less than an average in twenty-eight counties; seven counties report condition below 75 per cent. of an average; sixteen counties make no report.

CASTOR BEANS.

The condition of castor beans is 25 per cent. better than an average in one county—an average in nine counties; 5 per cent. below an average in one county; 15 per cent. below in one county, and 20 per cent. below in one county.

BUCKWHEAT.

The acreage of this crop has been increased in eight counties; twenty-three counties report the same acreage as in 1878; thirty-one counties report acreage from 5 to 25 per cent. below an average; nine counties report less than 75 per cent. of the acreage of the previous year;

thirty-one counties make no report. The condition of buckwheat is above an average in three counties; an average in thirty-nine counties; the condition is from 5 to 25 per cent. below an average in twenty-seven counties, and is below 75 per cent. of an average in five counties, while the condition is not given in twenty-eight counties.

CONCLUSION.

The acreage of winter wheat, spring wheat, oats, rye, barley and meadows, as published in the tables, by counties, is compiled from the latest assessors' returns, which generally exceed the former area estimated by correspondents.

ILLINOIS CROPS FOR 1879.

ILLINOIS DEPARTMENT OF AGRICULTURE,
SPRINGFIELD, December 31, 1879.

SEASON.

The season of 1879 has been comparatively dry, and the complaints during the growing season were quite general that the crops were suffering for want of rain. The unfavorable results of the drouth on the various crops were over-estimated, as will be seen as they are reported upon hereafter. The year 1879 will long be remembered by the farmers of Illinois as the dawning of better times. Altogether, there has not been a more encouraging season for producers during the last twenty years. The returns for the crops marketed during the year have been highly satisfactory, and have inspired great confidence in the future, and enthused many a heretofore despondent farmer, who has been struggling unsuccessfully for years against the strong current of business depression and accumulating indebtedness. The receipts from the fair crops of 1877 and 1878 have enabled the majority of Illinois farmers to regain their feet, and save something, after paying current expenses. The unusually large returns from the crops of the closing year has provided a large balance to the credit of the producer with which to cancel obligations or increase the bank deposits of farmers not encumbered with liabilities. The bank ledgers have not made such a favorable showing for farmers during the past fifteen years as at present. As an illustration of the improved financial condition of agriculturists, the returns of the last three wheat crops of the State are given. The corn and other crops will be considered in the report in order.

WHEAT CROPS.

The average yield per acre of the wheat crops of 1877, 1878 and 1879 exceeds that of any corresponding period, and is as follows: 1877, 16.4 bushels per acre; 1878, 14.6 bushels per acre; 1879, 18.75 bushels per acre—an average for the three years of 16.58 bushels per acre. The total yield of wheat raised in the State, for the three years named, exceeds that of any similar period, as will be seen by the following figures: The yield for 1877 was 32,490,556 bushels; 1878, 33,383,398 bushels; 1879, 45,417,661 bushels—averaging 37,263,871 bushels per year. The value of the last three crops of wheat is as follows: 1877 \$38,062,082; 1878, \$27,059,460; 1879, \$39,830,639—an average of \$33,997,393, which, on a gold basis, has never been equaled in any former period.

CORN.

The season which the meteorological tables indicate to have been very dry, was not so unfavorable to the yield as generally predicted previous to the gathering of the crop. The more thorough and frequent cultivation of the crop, necessitated by the dry season has had much to do with the unusually large average yield per acre. The largest yields are reported on the low and usually wet lands, not available for cultivation in ordinary seasons. The fall season has been quite favorable for gathering corn, and excepting a few localities the crop was saved in excellent condition. The quality of the present corn crop will not compare favorably with that of some previous years, owing to the continued drouth, which was quite general over the State during and after the planting season. The early frost seriously injured the late planted corn, much of which is loose on the cob, chaffy and of light weight. In some portions of the State the wind storms prostrated the corn, and the succeeding rains seriously damaged the crop. It will be observed that the acreage of the crop for the year, as hereafter reported, is less than that named in the June crop circular, which estimate was based upon the reported acreage of the previous year. The corn acreage given in this report was made up from the assessors' returns for 1878, and the increase or decrease in each county in 1879 is based upon the reports of correspondents of this Department.

CORN.

Years.	No of acres.	Average yield per acre in bushels	Bushels produced.	Price per bushel.	Total value.	Value per acre in currency	Value per acre in gold.
1860	3,839,159	30	115,174,770	42½	\$48,944,277	\$12 74	.....
1861	3,839,159	30	115,174,770	24	27,641,944	7 00	.....
1862	3,458,903	40	138,356,135	23	32,821,911	9 49	\$8 38
1863	3,773,349	22	83,013,681	62	51,479,442	13 64	9 39
1864	4,192,610	33	138,356,135	75	103,767,101	24 75	12 17
1865	5,023,996	35½	177,095,852	29½	51,800,536	10 31	6 56
1866	4,931,733	31 6	155,844,350	43	67,013,070	13 58	9 65
1867	4,583,655	23 3	109,091,000	68	74,281,880	16 20	11 73
1868	3,928,742	34 2	134,383,000	43	57,776,090	14 70	10 50
1869	5,237,064	23 2	121,500,000	57	69,255,000	13 22	9 91
1870	5,720,965	35.2	201,378,000	35	70,482,300	12 32	10 71
1871	5,310,469	38.3	203,391,000	32	65,085,120	12 25	11 03
1872	5,468,040	39.8	217,628,000	24	52,230,720	9 53	8 38
1873	6,849,714	21	143,634,000	32	45,962,880	6 72	5 84
1874	7,421,055	18	134,579,000	56	74,804,240	10 08	9 17
1875	8,163,265	34 3	280,000,000	34	95,200,000	11 66	10 14
1876	8,930,000	25	223,000,000	31	69,130,000	7 75	7 05
1877	8,935,411	30	269,889,742	28	77,562,879	8 68	8 28
1878	8,672,088	29	250,540,810	22	56,035,842	6 46	6 46
1879	7,918,881	38	305,913,377	32	97,483,052	12 16	12 17

The 1879 corn crop is the largest on record, and exceeds the great crop of 1875 by over twenty-five million (25,913,377) bushels. The present crop of 305,913,377 bushels was grown on 7,918,881 acres, which is believed to be much below the actual corn area of the State. The average yield is a fraction over thirty-eight bushels per acre, the largest, with two exceptions, during the past twenty years. The price per bushel, since the crop was gathered, has liberally remunerated the producer, and has been rather more than the large crop would seem to warrant for the medium quality of much of the corn marketed. The speculative demand, as the extent of the crop is better known, will cease in a measure. The supply of the better grades is comparatively limited, but the current or even better prices may be reasonably expected for corn that will pass inspection. It will be seen from the foregoing table that the value to farmers of the 1879 crop, on a gold basis, largely exceeds that of any former year, except 1864, and the return, on the same basis, has never yielded the farmer more money per acre.

WINTER WHEAT.

The present condition of the growing crop is up to a good average. The rapid improvement of winter wheat after the fall rains gave great encouragement concerning the outlook, and notwithstanding the serious injury from drouth and the Hessian fly over a large portion of the State, the increased vigor and rapid growth of the crop, at time of receiving reports from correspondents, inspired much confidence in the outcome of the crop. The most critical period has yet to be passed, and the present bright prospects may be soon dispelled by the injurious effects of a winter and spring season of common occurrence, in which the thawing and freezing, with strong winds, fatally expose the roots of the wheat plant thrown out by the heaving of frost. This crop is now cultivated in every county in the State, and the acreage and condition is noted in the wheat table, published in this report, for all except the counties of Bureau, Lee and Marshall, which failed to make report. There is a largely increased acreage of winter wheat, when compared with that of the previous year, and amounts to 525,891 acres, which is one-fourth more than that seeded in the fall of 1878. The area of the present crop is 2,657,227 acres, against that of 2,131,336 acres harvested last season. Nearly one-third of this large increase in acreage is located in the northern half of the State, where, until of late years, spring wheat has been grown almost exclusively. The increased attention given to the culture of winter wheat, north of the 40th parallel, during the last few years, and the causes for this new departure are worthy of special consideration, and the following table is given to show the steady northward march of winter wheat in Illinois the last five years, which has an area enlarged from 163,259 acres, in 1876, to 335,717 acres in 1880. The uncertainty of the returns from spring wheat; the frequent destruction of the crops by chinch bugs, the low average yield per acre, and price per bushel, when compared with winter wheat, with the same expense for seeding and harvesting, and the unexpected success the last few years attending the culture of winter wheat, in the northern counties of the State, have been the most prominent influences in bringing about the change.

ACREAGE WINTER WHEAT IN NORTHERN COUNTIES.

Counties.	Winter Wheat 1876.	Winter Wheat 1877.	Winter Wheat 1878.	Winter Wheat 1879.	Winter Wheat 1880.
Boone	599	599	658	391	655
Bureau					
Carroll	2,498	2,498	3,372	3,294	6,175
Cass	13,490	14,839	16,322	14,132	19,882
Champaign	5,353	6,697	9,040	11,181	17,878
Cook				80	63
DeKalb				125	225
DeWitt	1,541	1,541	1,386	2,653	9,035
DuPage				207	238
Ford	164	164	213	239	335
Fulton	16,396	16,396	17,215	17,215	28,405
Grundy				92	97
Hancock	9,781	9,291	10,220	21,468	31,970
Henderson	3,453	3,453	3,625	4,443	5,998
Henry				303	621
Irving	984	984	1,986	2,030	4,186
Jo Daviess	3,525	2,467	2,861	1,308	6,364
Kane	730	730	730	51	43
Kankakee				376	1,128
Knox	3,749	2,249	2,698	2,255	3,968
Lake	647	647	647	76	125
LaSalle	2,974	2,974	2,974	430	659
Lee					
Livingston				490	651
Logan	14,369	14,369	11,495	6,439	18,542
Marshall	390	396	396		
Mason	7,313	7,313	7,898	7,898	9,748
McDonough	3,471	3,471	3,297	3,297	4,154
McHenry	1,535	1,535	1,535	1,535	3,239
McLean	5,974	5,974	6,451	3,790	6,890
Menard	2,305	3,805	6,114	8,987	19,157
Mercer	2,217	2,808	2,803	1,215	1,737
Ogle	3,839	3,839	4,299	2,031	3,368
Peoria	3,526	2,645	2,909	3,665	4,352
Platt	2,217	2,217	2,108	4,211	5,845
Purnam	224	224	224	301	344
Rock Island	270	270	270	386	1,077
Schuyler	18,338	19,254	22,142	20,766	34,777
Stark				164	205
Stephenson	5,313	5,313	7,514	4,401	5,668
Tazewell	8,235	7,412	8,153	10,729	15,820
Vermillion	12,202	18,303	19,585	20,973	55,719
Warren	2,500	2,500	2,500	847	1,553
Whiteside				463	694
Will				323	375
Winnebago	1,667	1,667	1,750	859	1,655
Woodford	465	232	116	2,090	2,947
Total	163,259	168,576	185,539	188,680	335,717

The average yield per acre of spring and winter wheat for the last three years, with the price per bushel and the value per acre, is given in the following table. The acreage of spring wheat in the State for the period named was 303,736 acres in 1879, 291,912 in 1878, and 248,449 acres in 1877, a total of 844,097 acres which at the same average as realized per acre for winter wheat would have made a difference in favor of the producers of \$4,963,280, or \$5.88 per acre, the average of the difference in favor of winter wheat, as shown in the table:

	1877.			1878.			1879.		
	Average yield per acre, bushels...	Price per bushel at harvest.....	Value per acre ...	Average yield per acre, bushels...	Price per bushel at harvest.....	Value per acre...	Average yield per acre, bushels...	Price per bushel at harvest.....	Value per acre ...
Winter wheat ...	17	\$1 15	\$19 55	14	8	\$12 09	19	88	\$17 45
Spring wheat.....	12	1 00	12 00	13	82	10 86	11	78-10	8 59
Favor winter wheat	5	15	7 55	1	.....	1 23	8	10	8 86

The experiments as to the varieties of winter wheat best adapted to the northern counties of the State, the modes of culture, and other tests likely to aid in determining the question, are receiving more attention than heretofore, and with a season of the average low temperature the experience with the present crop will go far in deciding as to the advisability of increasing in the future, the winter wheat acreage northward.

WINTER RYE.

This crop is cultivated in all the counties in the State, and reports are given in the table published in this report of the acreage and condition in all except the counties of Bond, Hardin, Lee, Mason and Morgan. The crop is grown principally for winter and early pastures. The acreage of the growing crop is not quite as large as last season, and the condition is about up to a good average. The area seeded to winter rye this fall is 218,941 acres, against 235,742 acres the previous year. The rye crop harvested in 1879 was valued, at time of harvest, at nearly two million (1,991,404) dollars. In extent of area winter rye ranks fourth in importance among the cereals grown in the State.

IRISH POTATOES.

There is a slight increase in the acreage of Irish potatoes in 1879 over that of the previous season. The partial returns of the assessors for 1878 has been used as a basis for estimating the area of Irish potatoes for the past season, as well as for the average yield and value of the 1877 and 1878 crops. The tables in this report show the acreage, yield and value of the 1879 crop in the State, by counties. The following table, excepting the last three years, was compiled from the reports of the National Department of Agriculture:

Year.	Number of acres.	Av. y'd pr. acre, bushels.	Bushels produced.	Price per bushel.	Total value	Value pr. acre.
1860.....	69,255	80	5,540,800	\$ 81	\$1,717,520	\$24.80
1861.....	69,255	80	5,540,800	29	1,606,730	23.19
1862.....	64,444	100	6,444,404	40	2,577,762	40.00
1863.....	73,650	70	5,155,533	74	3,815,087	51.80
1864.....	55,521	81½	4,511,083	1 15	5,187,745	93.43
1865.....	50,124	117	5,864,408	47½	2,770,933	55.27
1866.....	58,983	88½	5,102,035	64	3,265,302	55.36
1867.....	60,710	60½	3,673,000	1 20	4,407,600	72.60
1868.....	53,521	71	3,800,000	81	3,078,000	57.51
1869.....	72,815	103	7,500,000	41	3,075,000	42.23
1870.....	104,037	81	8,427,000	64	5,393,280	51.84
1871.....	117,409	61	7,162,000	85	6,087,700	51.94
1872.....	128,906	75	9,668,000	46	4,447,280	34.50
1873.....	137,750	4½	5,510,000	1 12	6,171,200	44.80
1874.....	135,296	55	7,438,000	33	6,173,540	45.65
1875.....	118,750	123	15,200,000	82	4,264,000	40.98
1876.....	126,000	75	9,450,000	61	5,764,500	45.75
1877.....	95,717	71	6,795,349	45	3,057,907	32.95
1878.....	81,460	63	5,095,477	47	2,394,874	29.61
1879.....	90,351	78	7,125,932	50	3,506,738	39.00

PRINCIPAL CROPS.

The following table, giving the yield and value of the principal crops grown in the State for the past three years, makes a very favorable showing for the closing year. The want of data makes it impossible to give the particulars concerning other leading crops:

YIELD.

Article.	1877.	1878.	1879.
Corn, bushels.....	269,889,742	280,540,810	305,913,377
Hay, tons.....	4,044,969	4,255,471	2,578,796
Winter wheat, bushels.....	28,510,032	30,018,147	42,041,252
Spring wheat, bushels.....	2,680,524	3,870,251	3,376,409
Oats, bushels.....	67,145,983	63,086,388	54,664,569
Irish potatoes, bushels.....	6,795,349	5,095,477	7,125,932
Flax seed, bushels.....	.....	957,762	960,447
Sorghum, gallons syrup.....	.....	1,141,127	1,524,705
Hog product, number marketed.....	2,115,804	2,345,391	1,994,194
Fat cattle, number marketed.....	350,186	355,029	408,982
Fat sheep, number marketed.....	155,421	155,151	174,448

VALUE.

Article.	1877.	1878.	1879.
Corn.....	\$77,562,879	\$56,035,848	\$97,483,052
Hay	21,971,368	19,994,341	16,428,012
Winter wheat.....	34,960,824	23,570,257	37,266,757
Spring wheat.....	3,041,258	3,189,203	2,663,882
Oats	16,269,647	12,451,869	12,039,162
Pasture	14,764,112	12,324,647	12,319,620
Orchard fruits.....	3,589,672	4,181,662	2,497,687
Irish potatoes.....	3,057,907	2,394,874	3,506,788
Flaxseed.....	.....	.....	1,296,753
Sorghum.....	.....	.....	579,257
Hog product.....	22,738,881	16,724,384	16,640,061
Fat cattle.....	17,115,340	14,207,900	16,751,450
Fat sheep.....	615,467	618,156	513,884
Total	\$215,687,355	\$165,988,161	\$220,006,365

ACRES IN CULTIVATION.

The area of some of the leading crops is given in the following table, for the past five years, and shows comparatively little change during the past year. There is a slight decrease in the acreage of corn and meadows, and an increase in the area of wheat, oats and pastures:

Article.	1875.	1876.	1877.	1878.	1879.
Corn.....	8,187,914	8,815,791	7,627,735	8,672,088	7,018,881
Meadow.....	2,293,333	2,475,782	2,302,888	2,368,854	2,611,700
Winter and spring wheat.....	2,004,275	1,938,527	2,069,563	2,324,755	2,435,072
Oats	758,694	1,660,778	1,456,644	1,568,120	1,631,139
Pastures.....	4,219,347	4,289,918	3,760,071	3,983,459	4,193,894
Orchards.....	311,555	342,682	294,684	412,140	290,646

PRICES OF FARM PRODUCTS.

The increase in the prices of farm crops, when compared with the previous years, is considerable, and has had much to do with the improved condition of trade. The large crops sold at corresponding remunerative prices have put a very large amount of money into circulation.

Article.	1876.	1877.	1878.	1879.
Corn, per bushel.....	30	30	22	32
Winter wheat, per bushel.....	\$1 01	\$1 19	79	\$1 21
Spring wheat, per bushel.....	92	95	68	1 06
Oats, per bushel	30	23	17	29
Rye, per bushel	56	52	41	66
Barley, per bushel.....	53	47	56	68
Buckwheat, per bushel.....	.....	73	\$1 33	76
Potatoes, per bushel.....	58	45	47	50
Winter apples, per bushel.....	44	80	65	75
Hay, per ton	6 25	6 35	4 33	10 00
Beef cattle, gross	3 47	3 37	2 95	3 50
Fat hogs, gross.....	4 09	4 23	2 86	3 30

HOG CROP.

The number of hogs reported by assessors in May, 1879, is over half a million (536,499) less than for the previous year. The number fatted for this season's market shows a proportionate decrease, amounting to 381,197 hogs, when compared with 1878. The average weight net per head of the fat hogs marketed this season is estimated to be about the same as for 1878 which was 210 pounds. The increase in price in 1879 over that of 1878 has largely made up for the reduced number, which only lacks \$4,323 of returning the feeder the same amount as received for the previous hog crop. It will be seen from the following table that the 1879 hog crop, the largest ever produced in the State, excepting the years 1871-2-3-4-5-6-8, returns the producer less money than any hog crop since 1862; the difference between gold and currency

is not taken into consideration. The following returns of the number of hogs assessed each year since 1856, appear in the reports of the State auditor. The net weights since and including the year 1865, as well as the average net value per 100 pounds, is taken from the *Commercial*, except as noted:

Year.	Number assessed.	Estim'd percent mark'd.	Number fat hogs marketed.	Av. net weight per h'd.	Total net weight.	Val. per 100 lbs. net.	Value hog crop.
1856.....	1,596,903	70	1,117,832	*210	234,744,720	\$5 94	\$13,943,886
1857.....	1,893,585	70	1,325,509	*210	278,356,890	4 86	13,528,145
1858.....	1,908,603	70	1,386,022	*210	280,564,620	6 28	17,619,458
1859.....	1,725,328	70	1,207,730	*210	253,623,310	5 91	14,989,137
1860.....	1,530,256	70	1,071,179	*210	224,947,590	5 67	12,754,578
1861.....	2,196,581	70	1,537,607	*210	322,797,470	3 03	9,783,793
1862.....	2,601,395	70	1,820,976	*210	382,404,960	4 20	16,061,008
1863.....	2,506,138	70	1,754,296	*210	368,402,160	6 70	24,632,944
1864.....	2,044,844	70	1,431,391	*210	300,592,110	14 32	43,044,790
1865.....	1,743,005	70	1,220,103	231	281,843,793	11 67	32,891,170
1866.....	2,007,500	70	1,405,250	232	326,018,000	7 22	23,538,500
1867.....	2,616,814	70	1,831,770	201	368,185,770	7 95	29,270,778
1868.....	2,300,150	70	1,610,105	206	331,681,630	10 22	33,897,862
1869.....	2,056,304	70	1,439,413	205	295,079,655	11 53	34,022,685
1870.....	2,220,651	70	1,554,456	230	357,524,880	6 58	23,525,137
1871.....	2,938,749	70	2,057,124	227	466,967,148	5 15	24,048,808
1872.....	3,292,165	70	2,304,515	232	534,647,480	4 66	24,914,572
1873.....	3,560,192	70	2,492,134	214	533,316,676	5 43	28,959,095
1874.....	3,452,213	70	2,416,549	209	505,058,741	8 33	42,071,393
1875.....	2,809,969	70	1,966,978	217	426,834,226	8 82	37,646,778
1876.....	2,665,935	70	1,866,154	215	401,223,110	7 18	28,807,819
1877+.....	2,981,368	71	2,115,804	*215	455,687,574	4 99	22,738,881
1877+.....	3,335,550	69	2,345,391	*210	492,532,110	3 46	16,724,884
1879+.....	2,799,051	70	1,984,195	*210	416,680,740	3 99	16,640,061

*Estimated. †Crop reports Illinois Agricultural Department.

DISEASES OF SWINE.

The loss of swine by disease, in 1879, is less than for several years past. The increased attention given to the sanitary management of swine has doubtless had much to do with the decreased mortality. The comparatively dry season of 1879 is believed by some correspondents to have been favorable to the health of swine. The loss by disease has been mainly confined to pigs and shoats. The table gives by counties the loss of hogs by disease during the past year. For the last four years the aggregate loss of hogs to the State from disease is as follows:

Year.	Number of hogs assessed.	Percent died.	Number died.	Av. weight.	Value.
1876.....	2,665,935	17*	453,208	103	\$1,576,012
1877.....	2,961,366	12*	359,844	104	1,583,415
1878.....	3,334,920	14*	474,753	108	1,438,589
1879.....	2,799,051	6*	182,577	98	588,487
Average.....	2,940,318	12	367,347	103	\$1,296,626

The average loss each year for the years named above is a fraction over 12 per cent. of the number assessed, and amounting to \$1,296,626.

SHEEP KILLED BY DOGS.

The following table shows about the same per centage of loss of sheep killed by dogs in 1879 as for previous years. The number of sheep assessed, in May, 1879, is 70,314 head more than for the previous year. The last general assembly passed a law for the relief of flock-masters, which, it is believed, will license a great many worthless dogs out of existence, and insure the early payment for damages resulting from loss or injury to sheep, by dogs other than their own, of the full amount proved. The table presented gives the estimated number and value of sheep killed by dogs during the past four years:

Year.	Number assessed.	Percent killed.	Number killed.	Amount of loss.
1876.....	824,854	3*	24,725	\$30,578
1877.....	777,105	3*	28,753	63,752
1878.....	775,757	3-	20,720	43,845
1879.....	846,181	3*	27,398	66,884

*And a fraction over.

BEEF CATTLE.

The following table gives the number of fat cattle marketed in this State during the past twenty-four years. The number assessed is used as a basis for estimating the number marketed each year since 1855. The average gross weight per head, and the price per 100 pounds live weight of beef cattle is compiled from the reports of the Chicago markets since 1861—prior to that date it is believed the estimates are below the facts, could they be obtained. The number of cattle marketed in 1879 exceeds that of any previous year, and the average weight per head is greater than heretofore. The price, with one exception (1873), is lower than in any previous year named in the table, which largely reduces the returns to the feeder. The receipts from fat cattle for 1879 are less than that of any year, except 1873, since 1866. The improvement in the quality of fat cattle is frequently mentioned by correspondents as well as the increased profits attending the marketing of early matured cattle. The ambition of cattle feeders of this State to supply the market with cattle, not excelled in quality and finish, has been attained in an eminent degree. The determination of the more prominent cattle men to sustain the high reputation of Illinois cattle in the home and foreign markets will insure still greater improvement in the form, distribution of meat in the best parts, with lighter "fifth quarter," results that can be obtained only by improved breeding and the most skillful feeding. The incentive to reach the highest standard of excellence in point of early maturity and superior quality of meat, will spur both breeder and feeder to produce animals that at an early age will furnish ripe, juicy, tender, well marbled meat of a quality now seldom seen in the stalls of the best butchers on either continent.

Year.	No. assessed.	Estimated per cent mark'd.	No. beef cattle marketed.	Average gross weight per head...	Total gross weight.	Value per 100 lbs. gross.	Value of beef cattle product.
1856.....	1,169,855	+ 20	239,971	+ 1,000	239,971,000	+ \$4.75	\$11,113,622
1857.....	1,351,209	+ 20	270,242	+ 1,000	270,242,000	+ 4.75	12,838,495
1858.....	1,422,249	+ 20	234,450	+ 1,000	234,450,000	+ 4.75	13,541,375
1859.....	1,336,565	+ 20	267,513	+ 1,000	267,513,000	+ 4.75	12,706,867
1860.....	1,425,978	+ 20	235,106	+ 1,000	235,106,000	+ 5.00	14,259,800
1861.....	1,423,362	+ 20	245,672	+ 1,000	245,672,000	+ 5.00	14,283,600
1862.....	1,603,909	+ 20	320,790	+ 1,000	320,790,000	+ 5.00	16,039,500
1863.....	1,684,822	+ 20	336,978	+ 1,000	336,978,000	+ 5.00	16,848,900
1864.....	1,370,783	+ 20	374,157	+ 1,000	374,157,000	5.05	13,844,928
1865.....	1,568,280	+ 20	213,566	+ 1,000	213,566,000	5.70	17,878,392
1866.....	1,435,769	+ 21	287,154	+ 1,000	287,154,000	5.60	16,080,624
1867.....	1,486,381	+ 20	297,276	+ 1,000	297,276,000	5.75	17,093,370
1868.....	1,590,983	+ 20	304,193	1,045	304,049,405	5.75	18,977,840
1869.....	1,584,445	+ 20	316,889	1,103	349,828,567	5.70	18,923,180
1870.....	1,578,015	+ 20	315,608	1,110	350,319,550	5.85	20,493,679
1871.....	1,611,349	+ 20	322,270	1,129	363,842,830	4.75	17,282,533
1872.....	1,684,029	+ 20	336,808	1,137	382,948,422	4.85	18,572,997
1873.....	2,015,819	+ 20	403,164	1,145	461,622,780	4.50	20,773,026
1874.....	2,012,277	+ 20	408,465	1,152	470,551,680	4.85	22,821,757
1875.....	1,985,155	+ 20	397,031	1,147	455,394,557	4.85	22,086,633
1876.....	1,857,301	+ 20	371,460	1,156	429,407,760	4.05	17,891,016
1877.....	1,750,931	+ 20	350,148	+ 1,150	402,713,900	4.25	17,115,340
1878.....	1,775,401	+ 20	355,020	1,160	411,623,200	3.45	14,207,900
1879.....	1,862,285	22	409,982	1,162	476,473,759	3.50	16,751,450

+ Estimated.

PASTURES.

There is a larger acreage of pastures this season than last, as will be seen by the following table, which gives the acreage and value of pastures the last three years, as returned by correspondents of this department. The value per acre of pastures is less than for three previous years, which is largely owing to the prevailing drouth. The table gives, by counties, the acreage and value of pastures for the year 1879.

Year.	Acres—pastures.	Value per acre.	Total value.
1877.....	3,992,825	\$3.38	\$14,764,112
1878.....	3,983,459	3.10	12,324,047
1879.....	4,193,894	2.95	12,319,620

FAT SHEEP.

The following table gives the number of sheep assessed each year since 1855. The number marketed each year is estimated at 20 per cent. of the assessment. The average gross weight per head and the value per 100 pounds, live weight, except as noted, has been obtained from the market reports of the city of Chicago, and while the weight, price and number marketed each year will be considered by authorities as somewhat below the average, the table will serve a valuable purpose in furnishing more complete information than has heretofore been given concerning the sheep industry of the State, which is an important and growing interest worthy of more attention and encouragement.

Year.	No. assessed.	Estimated per cent marketed.	No. fat sheep marketed.	Av. gross wt. per head...	Total gross weight.	Value per 100 lbs. gross..	Value fat sheep product.
1856.....	786,438	20	157,286	+ 90	14,155,740	†\$3 50	\$495,450
1857.....	780,602	20	156,120	+ 90	13,680,300	† 3 70	506,580
1858.....	760,793	20	152,159	90	13,684,220	2 30	314,967
1859.....	647,324	20	129,467	91	11,791,497	3 80	447,694
1860.....	534,430	20	116,886	95	11,104,170	3 39	366,440
1861.....	731,879	20	146,376	104	15,212,704	3 80	366,439
1862.....	913,034	20	182,605	102	18,625,710	3 80	625,402
1863.....	1,206,625	20	241,325	110	26,575,750	4 95	1,214,012
1864.....	1,606,144	20	321,229	111	35,656,319	5 91	2,107,293
1865.....	2,165,972	20	433,194	+ 90	38,987,460	5 65	3,202,788
1866.....	2,415,980	20	483,016	104	50,233,664	4 75	2,185,166
1867.....	2,599,998	20	519,999	98	50,959,902	+ 4 25	2,195,796
1868.....	2,336,716	20	467,343	+ 90	42,060,870	3 80	1,598,314
1869.....	1,957,513	20	391,513	85	33,278,605	3 85	1,281,228
1870.....	1,434,236	20	286,847	+ 90	25,816,230	4 19	1,058,464
1871.....	1,073,497	20	214,699	+ 90	19,322,910	4 40	850,207
1872.....	1,010,475	20	202,095	+ 90	17,188,550	4 15	754,826
1873.....	1,092,104	20	218,421	+ 90	19,677,890	4 75	937,750
1874.....	1,036,831	20	207,368	+ 90	18,962,944	4 40	821,168
1875.....	928,056	20	185,611	+ 90	16,704,990	4 90	818,545
1876.....	834,854	20	166,971	+ 90	14,847,390	4 50	669,133
1877.....	777,105	20	155,421	90	13,987,890	4 40	615,467
1878.....	775,757	20	155,151	104	16,135,704	3 80	613,156
1879.....	847,101	20	174,448	98	17,170,381	2 98	513,834

† Estimated.

DIVERSITY OF CROPS.

Illinois has an area, according to the census report, of 55,410 square miles, or, according to the State Auditor, of 55,872 square miles, or over 34,511,444 acres, an area of nearly one-half that of the British Isles, or one-quarter that of France. From an article in late report of this department, on the "Agriculture of Illinois," by Hon. W. C. Flagg, the following extract is made:

"The soil of this vast plain is said to be mainly founded on drift from more northern localities. The subsoil over a large part of the State is usually a yellow clay, but in some of the northern counties it is gravel, and occasionally, especially in the Grand Prairie region, the lower formation of blue clay comes near the surface. The river bluffs are more or less covered with a calcareous deposit called 'loess,' of uniform character, and occasionally of great thickness. The surface soil varies still more than the subsoil; it seems to be more coarse and open in the north, and more finely commuted and close going southward, following in this respect the general analogy of the drift. An important practical consequence of this is the less liability of plants in the finer soil to damage from extreme dry cold or dry heat. Another consequence is that the northern soils are warmer, and are often planted with crops as early in the spring as the southern."

It will be seen from the following table that nearly all the crops grown in the United States receive more or less attention in Illinois. The length of the State from northern to southern boundary is over 370 miles, while at the widest part it is over two hundred miles from the east to the west line. In this extended range of latitude agriculture can be diversified more than elsewhere, and with a soil whose fertility seems practically inexhaustible, the previous results in the large contributions to the world's markets of meat and cereals may be considered as only the initiatory steps to the returns that may be reasonably expected in the near future with proper drainage and more thorough cultivation. There is great and increasing interest manifested in the subjects of drainage, which cannot be better illustrated than by the statement of the fact of the successful establishment, within a few years, of over three hundred drain tile manufacturing, located in a large majority of the counties in the State. The spirit of improvement in the better modes of farming is widespread, and is more apparent to the observer each succeeding year. The profits received from late crops have provided necessary means and given an unparalleled impetus to the more thorough and profitable modes of farming. This change for the better is attested by the increased attention given to the improvement in quality of the various meat and dairy breeds of animals, the demand for the best varieties of cereals, and the more thorough preparation of the ground for seeding, as well as the cultivation of the growing crops. The following tables, giving the official agricultural statistics as returned by assessors, of the area and yield of crops grown in the State for the years 1877 and 1878, are very imperfect and far from satisfactory. These partial re-

turns may serve a purpose, as a basis for approximating the extent and yield of the crops grown in the State. It will be seen from the table that over one-third of the area of the State is not included in the returns. The present law for the collection of agricultural statistics has not been in operation a sufficient length of time to obtain the best results. The local pride and earnest desire evinced by the county clerks and the people generally, to have their resources correctly and extensively advertised to the outside world, will insure proper attention to the collection of this important data, and enable the department to publish hereafter returns of agricultural statistics very nearly approaching accuracy. The column to the right in the table gives the per centage of area of each crop for 1878 to the total number of acres in the State, which includes wood land, uncultivated land, and the acreage not reported. It will be seen that corn occupies over nineteen per cent. of the area of the State, and in order of extent follows pastures, eleven per cent., winter wheat, five per cent., meadows, five per cent., oats, four per cent, etc.

DIVERSITY OF FARM CROPS.

Farm crops, etc.		No. acres 1877.	No. bushels produced 1877.	No. acres 1878.	No. bushels produced 1878.	Perct. of area to total acre in State 1878.
Wheat.	1. Corn	7,654,474	217,046,190	6,649,226	193,080,845	19.332
	2. Winter wheat	1,500,680	21,877,023	1,806,651	23,293,388	5.252
	3. Spring wheat	176,053	2,200,343	221,795	3,075,314	0.645
	4. Oats	1,474,210	49,748,473	1,536,914	53,444,555	4.468
Orchard.	5. Apple orchard	272,842	5,893,351	244,547	4,940,811	0.702
	6. Peach orchard	12,862	402,587	13,299	607,292	0.088
	7. Pear orchard	623	16,818	884	13,510	0.002
			No. galls. wine made 1877.		No. galls. wine made 1878.	
	8. Vineyards	2,612	159,944	5,178	142,984	0.015
Meadow.			No. tons pro- duced 1877.		No. tons pro- duced 1878.	
	9. Timothy meadow	1,741,069	2,241,816	1,520,889	2,056,838	4.421
	10. Clover meadow	105,832	145,155	122,953	178,635	0.354
	11. Prairie meadow	450,947	514,948	385,868	448,658	1.122
	12. Hungarian and Millett..	16,834	23,076	10,241	19,358	0.029
			No. bushels produced 1877.		No. bushels produced 1878.	
	13. Rye	231,972	3,825,091	223,191	2,915,940	0.678
	14. Barley	44,982	842,942	26,164	703,294	0.076
	15. Buckwheat	15,830	207,696	16,060	155,340	0.047
	16. Castor beans	4,503	17,738	361	2,526	0.001
	17. Beans	1,545	19,944	1,669	18,627	0.004
	18. Peas	521	13,283	537	21,410	0.001
	19. Irish potatoes	95,717	6,795,349	81,460	5,095,477	0.237
	20. Sweet potatoes	2,355	148,270	1,720	116,944	0.005
			No. pounds produced 1877.		No. pounds produced 1878.	
	21. Tobacco	12,320	7,885,586	3,883	2,268,492	0.011
	22. Broom Corn	14,566	6,674,747	18,248	11,218,168	0.053
	23. Hemp (fiber)	1,154	346,744	448	99,355	0.001
	24. Cotton (lint)	205	39,188	2,484	3,053	0.007
	25. Flax (fibre)	89,304	6,178,693	96,179	5,509,513	0.279
			No. galls. syrup made 1877.		No. galls. syrup made 1878.	
Other Field Products.	26. Sorgo	19,835	1,227,164	14,638	1,174,549	0.042
			Value of crops produced 1877.		Value of crops produced 1878.	
	27. Turnip & other root crops	7,057	\$279,136	3,775	\$154,149	0.011
	28. Other fruits and berries.	4,523	178,800	3,539	197,581	0.013
	29. Other crops not named ab	62,069	299,543	20,813	157,862	0.065
	30. Pasture	3,612,614		3,800,211		11.049
	31. Woodland	3,625,756		3,771,015		10.963
	32. Uncultivated land	1,745,643		2,300,200		6.687
	33. Area city & town real es- tate (not included above)	287,736		254,111		0.738
	Acreage not reported	11,223,539		11,393,677		32.612
Total		34,511,444		34,115,444		100.

LIVE STOCK, ETC.

Live stock, etc.		Quantity or value 1877	Quantity or value 1878.
SHEEP.			
34	Number sheep killed by dogs.....	89,649	26,047
	Total value sheep killed by dogs.....	\$90,796	\$69,986
35.	Number pounds wool shorn.....	3,291,677	2,891,007
36.	Number fat sheep sold.....	241,422	144,762
	Total gross weight fat sheep sold, lbs.....	23,176,512	12,531,597
DAIRY.			
37.	Cows, number kept.....	556,466	508,753
38.	Pounds butter sold.....	13,970,227	17,997,652
39.	Pounds cheese sold.....	4,502,671	5,139,914
40.	Gallons cream sold.....	2,744,259	62,707
41.	Gallons milk sold.....	17,122,506	30,567,415
CATTLE.			
42.	Number fat cattle sold.....	423,984	387,816
	Total gross weight fat cattle sold, lbs.....	448,151,088	365,458,112
HOGS.			
43.	Number fat hogs sold.....	2,455,573	2,271,493
	Total gross weight fat hogs sold, lbs.....	618,804,396	550,955,097
44.	Number hogs and pigs died of cholera.....	1,445,268	1,391,422
	Total gross weight of swine died of cholera, lbs.....	106,949,832	129,853,508
CROPS, ETC.			
45.	Number bushels timothy seed produced.....	483,571	281,559
46.	Number bushels of clover seed produced.....	64,686	77,388
47.	Number bushels Hungarian and millet seed produced...	16,463	26,787
48.	Number bushels cotton seed produced.....	2,286	4,959
49.	Number bushels flax seed produced.....	698,839	971,015
50.	Number pounds grapes produced.....	3,092,748	1,922,836

FLAX SEED.

The acreage devoted to the culture of flax in 1879 exceeds that of the previous season. The crop is mainly grown for the seed, and has proved quite remunerative on suitable soils. The 1879 area of 110,016 acres was distributed over thirty-nine counties in the State, and produced an average of nine bushels per acre, which is a better return than for the two preceding years. The average price per bushel of \$1.30 returns the producer \$11.70 per acre, or \$1,296,753 for the entire crop of the State. The table gives the acreage, yield and value of the crop by counties.

AGRICULTURAL STATISTICS.

The great value of the Crop Statistics of this Department mainly consists in their early and prompt appearance during the growing season, and immediately after harvest, when the information as to condition and yield is most needed to enable the producer and legitimate dealer to decide as to the supply and value of the crop.

The last official acreage of the several crops, as reported by assessors, is used as a basis for applying the estimate of crop correspondents as to the area and yield of the growing crops, and it is not to be expected that the estimates of correspondents will more than closely approximate the assessed returns reported the year following.

The estimates of correspondents, with few exceptions, have been below the returns of assessors made the succeeding year, and during the last three years the reports, when compared with the assessment, have confirmed the superior judgment and careful observations made by correspondents, who are farmers of experience and standing and largely interested in the accuracy of the returns, and, as a rule, are inclined to the side of conservatism.

The value of complete statistics is not fully appreciated except by a very limited number, and this meagre number is mainly composed of capitalists, who largely influence the public sentiment for or against an enterprise or locality.

No better investment can be made by a state or county than of funds judiciously expended in collecting and publishing all the statistics relating to the character of the soils, crops produced, mineral resources, school privileges, transportation facilities, sanitary influences, bonded or other indebtedness, rates of taxation, etc. While some of this data might not be as favorable, or all that could be desired, it would give the capitalist, manufacturer and farmer, seeking location or investment, definite information not furnished by other more favored localities, and result greatly to the advantage of the more enterprising community.

INCOMPLETE RETURNS.

The frequent calls upon this office for statistics concerning the resources and productions of each county in this State from capitalists, manufacturers, farmers, and others seeking investment or location, make it a matter of the first importance to the enterprising citizen of all the counties, that the most complete returns of the agricultural statistics be collected annually and placed on file in this office for reference and publication. It will be seen from the following table that the officers of some counties have entirely disregarded the provisions of the law providing for the collection of agricultural statistics, and thereby some of the best counties in the State have been placed at a great disadvantage in not having their superior inducements extensively advertised through columns of the press and the reports of this department. The total acreage reported in the table is that returned by County Clerks to the State Auditor in 1878, and while much below the actual area in some of the counties is the best official data attainable.

Counties.	Acreage returned to Auditor 1878 except as noted.	Acreage reported in returns of Agricultural Statistics, for 1878.	Acreage not accounted for.
Adams	528,005	392,431	135,574
Alexander	109,381	...	109,381
Bond	*252,311	...	252,311
Boone	177,433	169,830	7,603
Brown	*189,933	189,933	...
Bureau	547,323	...	547,323
Calhoun	166,213	103,970	62,243
Carroll	287,337	244,973	42,364
Cass	*239,168	...	239,168
Champaign	621,652	681,882	...
Christian	*447,328	359,846	87,484
Clark	*322,122	284,249	37,873
Clay	280,590	150,061	130,529
Clinton	*305,381	305,381	...
Coles	*321,819	321,639	180
Cook	514,092	357,638	156,454
Crawford	275,601	176,972	98,629
Cumberland	*220,829	214,749	6,080
DeKalb	399,363	399,364	29
DeWitt	*251,461	205,685	...
Douglas	263,066	262,770	296
DuPage	*206,077	208,910	...
Edgar	398,600	313,979	84,621
Edwards	140,598	141,525	...
Effingham	276,610	177,507	99,103
Fayette	*414,804	201,263	213,411
Ford	305,113	308,331	3,218
Franklin	246,637	...	246,637
Fulton	549,973	...	549,973
Gallatin	200,585	201,936	...
Greene	843,197	224,721	118,476
Grundy	*268,708	182,211	86,497
Hamilton	*373,982	268,507	5,455
Hancock	493,644	208,203	195,441
Hardin	109,408	...	109,408
Henderson	238,791	239,537	...
Henry	515,379	419,986	95,393
Iroquois	705,518	502,479	203,039
Jackson	319,355	295,202	24,153
Jasper	309,406	199,251	110,155
Jefferson	*333,927	324,687	9,240
Jersey	233,233	...	233,233
JoDaviss	*377,451	377,451	...
Johnson	*209,413	197,564	11,849
Kane	*323,135	270,982	52,153
Kankakee	420,653	380,690	39,963
Kendall	202,360	194,490	7,870
Knox	*447,539	437,587	9,952
Lake	*284,273	203,602	80,671
LaSalle	*711,843	609,282	102,561
Lawrence	225,935	221,455	4,480
Lee	456,869	...	456,869

Incomplete Returns—Continued.

Counties.	Acreage returned to Auditor 1878 except as noted.	Acreage reported in returns of Agricult' l Statistics for 1878.	Acreage not accounted for.
Livingston.....	655,040	489,226	165,814
Logan.....	391,593	319,466	72,117
Macon.....	366,266	287,640	98,626
Macoupin.....	543,217	453,565	89,652
Madison.....	448,614	326,765	121,849
Marion.....	*333,079	236,274	96,805
Marshall.....	247,377	.....	247,377
Mason.....	351,328	.....	351,328
Massac.....	146,863	66,733	80,130
McDonough.....	363,993	.....	363,993
McHenry.....	384,265	.....	384,265
McLean.....	744,235	740,228	4,007
Menard.....	*199,741	172,607	27,134
Mercer.....	347,802	350,622	.....
Monroe.....	231,653	147,129	84,524
Montgomery.....	498,593	442,082	.....
Morgan.....	353,350	.....	353,350
Moultrie.....	216,211	145,709	70,502
Ogle.....	*479,166	.....	479,166
Peoria.....	386,927	386,927	.....
Perry.....	*242,492	241,943	544
Platt.....	*275,577	236,032	39,545
Pike.....	*511,580	308,246	203,334
Pope.....	*232,609	232,609	.....
Pulaski.....	111,975	113,225	.....
Putnam.....	*105,997	106,430	.....
Randolph.....	357,687	224,192	133,495
Richland.....	227,274	190,812	36,462
Rock Island.....	*266,571	271,653	.....
Saline.....	240,628	60,924	179,704
Sangamon.....	544,607	401,084	143,523
Schuyler.....	276,303	219,984	56,319
Scott.....	156,794	109,241	47,553
Shelby.....	*476,888	273,218	203,670
Stark.....	*180,903	197,295	43,608
St. Clair.....	*416,281	236,952	178,329
Stephenson.....	*357,240	276,606	80,634
Tazewell.....	408,748	320,572	88,176
Union.....	*219,556	126,194	93,362
Vermilion.....	*563,230	418,681	144,549
Wabash.....	137,155	101,501	35,654
Warren.....	*336,474	316,334	20,140
Washington.....	*338,013	183,071	154,943
Wayne.....	449,610	258,931	190,676
White.....	313,382	916,971	2,408
Whiteside.....	*432,412	432,412	.....
Will.....	*524,692	442,076	82,616
Williamson.....	254,843	243,586	11,257
Winnebago.....	*322,102	278,256	43,846
Woodford.....	337,135	304,111	33,024
Total.....	34,511,444	24,110,876	10,473,856

*Assessors' returns, 1879.

NAMES AND POSTOFFICE ADDRESS
OF
CROP CORRESPONDENTS,
DEPARTMENT OF AGRICULTURE,
FOR THE YEAR 1879.

ADAMS COUNTY:

T. Butterworth, Quincy.....	4
C. H. Hankin, Payson.....	4
A. R. Wallace, Camp Point.....	3
S. D. Lewis, Payson.....	4
G. W. Dean, Adams.....	4

ALEXANDER COUNTY:

James H. Metcalf, Cairo.....	2
J. E. McCrite, Elco.....	4
J. I. Nowotny, Beech Ridge.....	2
Severe Marchildon, Thebes.....	4
Nicholas Hunsaker, Goose Island.....	2

BOND COUNTY:

John V. McFarland, Cotton Wood Grove.....	4
John Riley, Mulberry Grove.....	3
C. A. Meyer, Greenville.....	3
Thomas W. Hines, Pocahontas.....	4
S. H. Charles, Pocahontas.....	2

BOONE COUNTY:

Evi Sherman, Poplar Grove.....	3
George Reed, Belvidere.....	4
S. C. Fox, Garden Prairie.....	4
L. W. Lawrence, Belvidere.....	4
E. E. Moss, Belvidere.....	4

BROWN COUNTY:

Henry D. Ritter, Versailles.....	4
George T. Hersman, Hersman.....	1
T. J. Nolen, Mound Station.....	4
R. T. Bratten, White Oak Springs.....	4
James Warren, Ripley.....	3

BUREAU COUNTY:

L. D. Whiting, Tiskilwa.....	2
James F. Mallett, Milo.....	4
George W. Stone, Princeton.....	3
J. Y. Spangler, New Bedford.....	2
John L. Hall, Wyandot.....	3

CALHOUN COUNTY:

A. Smith, Hardin.....	4
George W. Long, Belleview.....	3
William Love, Brussels.....	4
S. A. White, Monterey.....	1

CARROLL COUNTY:

C. W. Allison, Milledgeville.....	4
E. L. Ryington, Lanark.....	4
E. N. Baily, Argo.....	2

CASS COUNTY:

Thomas J. Crum, Virginia.....	4
John M. Epler, Little Indian.....	4
John H. Goodell, Chandierville.....	4
John Beggs, Ashland.....	4
J. K. Clark, Bluff Springs.....	3

CHAMPAIGN COUNTY:

James Batterman, Pesotum.....	2
J. M. Morse, Gifford.....	4
W. A. Conkey, Homer.....	4
J. C. Ware, Mahomet.....	2
B. F. Johnson, Champaign.....	2
J. M. Lewis, Urbana.....	3

CHRISTAIN COUNTY:

J. B. White, Morrisouville.....	3
A. B. Herdman, Morrisouville.....	2
John W. Hunter, Owneco.....	3
O. S. Nash, Sharpsburg.....	4
J. Overholt, Assumption.....	2

CLARK COUNTY:

James B. Sheaspley, Martinsville.....	2
F. B. Ennis, Dolson.....	4
R. R. Scott, Casey.....	3
Samuel Park, Marshall.....	4

CLAY COUNTY:

W. W. Bowler, Flora.....	3
John S. Symond, Aenia.....	3
Crawford Erwin, Louisville.....	4
J. B. Craig, Ingraham.....	3
Theron Gould, Bible Grove.....	4

CLINTON COUNTY:

W. H. Russell, Lost Creek.....	4
John Burton, Trenton.....	3
O. B. Nichols, Sr., Carlyle.....	4
B. Pullen, Centralia.....	3

COLES COUNTY:

Thomas O'Brien, Ashmore.....	4
T. G. Chambers, Charleston.....	2
M. P. Threlkeld, Mattoon.....	4
Winfield Wood, Mattoon.....	2

COOK COUNTY:

A. H. Dalton, Dalton.....	2
Norman Powell, Palos.....	4
Alex. Wilcott, Chicago.....	2
George Struckman, Elgin.....	3
O. L. Sweet, Glenwood.....	4

CRAWFORD COUNTY:

William L. Henstiss, Robinson..... 4
 Andrew Newlin, Hudsonville..... 4
 Findley Paull, Palestine..... 4
 A. W. Duncan, Flat Rock..... 4

CUMBERLAND COUNTY:

Harlow Park, Greenup..... 4
 David Neal, Neoga..... 4
 Ed. Bumgarder, Hazel Dell..... 4

DEKALE COUNTY:

Samual Alden, Sycamore..... 4
 D. M. Marsh, Sandwich..... 3
 George Greenwood, Waterman..... 3
 R. M. Pritchard, Waterman..... 3
 M. W. Cole, Kingston..... 3

DEWITT COUNTY:

E. H. Robb, Waynesville..... 3
 John McDonald, Farmer City..... 4
 John Vandervoort, Clinton..... 4
 James W. Knox, Wapella..... 1

DOUGLAS COUNTY:

James H. Wilson, Tuscola..... 3
 J. T. Irwin, Camargo..... 2
 S. L. Woodsworth, Arcola..... 4
 F. A. McCarthy, Arcola..... 4

DUPAGE COUNTY:

H. L. Rush, Downer's Grove..... 4
 P. W. Stacy, Prospect Park..... 3
 Lewis Ellsworth, Naperville..... 1
 Daniel Dunham, Wayne..... 4
 W. R. Patrick, Lombard..... 2

EDGAR COUNTY:

W. O. Pinnell, Kansas..... 3
 A. N. Workman, Scott Land..... 3
 W. H. Stubbs, Ferrell..... 2
 B. O. Curtis, Paris..... 3
 A. S. McCord, Paris..... 4

EDWARDS COUNTY:

W. A. Shelby, Maple Grove..... 2
 W. J. Q. Orange, Albion..... 1
 Marion Huffman, West Salem..... 1
 Jas. Dawes, Albion..... 4
 John W. Skeavington, Albion..... 4

EFFINGHAM COUNTY:

A. B. Kidder, Moccasin..... 4
 D. W. Mathews, Mason..... 3
 John McDonald, Edgewood..... 3
 W. H. Hyden, Elliottstown..... 4

FAYETTE COUNTY:

O. B. Lovett, St. Elmo..... 4
 O. Carson, Brownstown..... 4
 Fr. Fellwock, St. Paul..... 3
 J. F. Kennody, Shabonier..... 4

FORD COUNTY:

L. T. Bishop, Piper City..... 4
 John J. Simmons, Paxton..... 4
 James Ogelvie, Caberey..... 2
 O. D. Sackett, Roberts..... 4
 S. J. LeFevre, Gibson City..... 4

FRANKLIN COUNTY:

Wm. Drummond, Benton..... 3
 F. M. Phipps, Benton..... 3
 C. C. Briggs, Cave..... 3
 Isham Harrison, Mulkeytown..... 3
 Thos. Neal, Ewing..... 4

FULTON COUNTY:

M. Rawalt, Canton..... 3
 Alex. Bally, Vermont..... 3
 D. H. Gorham, Avon..... 4
 John Prickett, Lewistown..... 4

GALLATIN COUNTY:

John Yost, Shawneetown..... 1
 Albert Folsom, Equality..... 4
 C. W. McGehee, Shawneetown..... 4
 Martin Doherty, Waltonborough..... 3
 A. K. McCabe, Shawneetown..... 2

GREENE COUNTY:

C. W. Brace, Kane..... 3
 Alex. King, Athensville..... 4
 Elon A. Eldred, Corrollton..... 3
 S. G. Russell, Bluffdale..... 3
 Jas. Rickart, Whitehall..... 4

GRUNDY COUNTY:

John Hurst, Minooka..... 2
 Otis Baker, Morris..... 3
 R. K. Slosson, Verona..... 4
 Wm. Pierce, Verona..... 4
 C. E. Parker, Gardner..... 3

HAMILTON COUNTY:

John H. Barker, Broughton..... 3
 A. M. Sturman, Dahlgren..... 3
 Adam Crouch, Piopolis..... 1

HANCOCK COUNTY:

A. C. Hammond, Warsaw..... 4
 Emil E. J. Baxter, Nauvoo..... 4
 B. Whitaker, Warsaw..... 4
 John R. Tull, Fruitland..... 4
 E. W. Romick, Plymouth..... 3

HARDIN COUNTY:

James A. Lowry, Elizabethtown..... 4
 John Mitchell, Cave-in-Rock..... 2
 W. L. Stilly, Parkinson's Landing..... 1
 L. F. Twitchell, Elizabethtown..... 1
 W. N. Warford, Sparks, Hill..... 4

HENDERSON COUNTY:

Samuel Hutchinson, Kirkwood..... 4
 Peter Groome, Raritan..... 4
 John H. McDougall, Biggsville..... 3
 Paul D. Salter, Kirkwood..... 2

HENRY COUNTY:

N. C. Howard, Geneseo..... 2
 N. C. Gilbert, Geneseo..... 4
 Joshua C. Edwards, Cambridge..... 3
 John A. Widney, Woodhull..... 4
 Wm. Mathis, Annawan..... 3

IROQUOIS COUNTY:

Robert Caldwell, Sheldon..... 1
 K. Shankland, Hoopeston..... 4
 A. C. Johnson, Woodland..... 3
 Isaac Pilotte, Martinton..... 3

JACKSON COUNTY:

George C. Hapford, Makanda..... 4
 George B. Corey, Desoto..... 3
 Hiram Schwartz, Elkville..... 4
 T. T. Robinson, Pomona..... 1
 F. Phoenix, Campbell Hill..... 3

JASPER COUNTY:

James Picquet, St. Marie..... 4
 W. E. Barrett, Newton..... 4
 R. G. Scott, Ingraham..... 3
 A. Wilson, Montrose..... 4

JEFFERSON COUNTY:

John R. Moss, Mt. Vernon..... 3
 John Wilbanks, Elk Prairie..... 4
 L. E. Jones, Opdyke..... 1
 George L. Whitlock, Dix..... 3
 E. S. Noleman, Irvington..... 4

JERSEY COUNTY:

Henry Ryan, Medora..... 4
 James E. Starr, Elsau..... 3
 J. T. Curtis, Otterville..... 4
 J. H. Belt, Fieldon..... 2
 W. H. Fulkerson, Jerseyville..... 4

JO DAVIESS COUNTY:

Henry Green, Elizabeth.....	4
E. M. Bouton, Galena.....	4
S. S. Brown, Galena.....	3
J. A. Hammond, Hanover.....	4
Joseph Moore, Plum River.....	4
R. A. Oliver, Hanover.....	3

JOHNSON COUNTY:

H. T. Williams, Buncombe.....	3
James M. Dameron, Vienna.....	2
F. M. Jones, Vienna.....	4
E. F. Morton, New Burnside.....	3

KANE COUNTY:

Joseph Tefft, Elgin.....	4
J. P. Birtlett, Blackberry.....	4
H. Chapman, Sugar Grove.....	3
William Conant, Geneva.....	2

KANKAKEE COUNTY:

James Chatfield, Mokence.....	3
Milo Barnard, Manteno.....	4
R. A. Lane, Kankakee City.....	3
R. N. McKinstry, Grant Park.....	4
I. C. Mosler, Wilmington.....	3

KENDALL COUNTY:

J. M. Gale, Bristol.....	4
John S. Seely, Oswego.....	4
John Hurst, Minooka.....	3
L. Scofield, Newark.....	3
Geo. M. Hollenback, Millbrook.....	4

KNOX COUNTY:

John Sloan, Douglas.....	1
Isaac Hunter, Abingdon.....	3
G. A. Marshall, Abingdon.....	4
R. W. Miles, Gilson.....	3
A. N. Phelps, Wataga.....	2
C. G. Taylor, Galesburg.....	4

LAKE COUNTY:

Elisha Gridley, Half-Day.....	2
Henry Hart, Hainesville.....	4
Arthur Cook, Wauconda.....	4
John Pope, Wadsworth.....	4
G. S. Farmer, Libertyville.....	4
William Atteridge, Lake Forest.....	3

LASALLE COUNTY:

A. M. Ebersoll, Ottawa.....	4
Thomas J. Davis, Triumph.....	3
Elmer Baldwin, Farm Ridge.....	4
George A. True, Utica.....	4
George W. Armstrong, Seneca.....	3
W. H. Holdridge, Tonica.....	4

LAWRENCE COUNTY:

W. T. Buchanan, Bridgeport.....	2
James F. Jennings, Chauncey.....	4
Josiah Terrault, Russellville.....	2
A. I. Judy, Lawrenceville.....	2

LEE COUNTY:

Abijah Powers, Prairieville.....	3
James C. Lahman, Franklin Grove.....	4
Thomas Clayton, Nelson.....	2
Abram Brown, Dixon.....	4

LIVINGSTON COUNTY:

Dan. R. Potter, Fairbury.....	4
L. R. Rancroft, Pontiac.....	3
S. T. K. Prime, Dwight.....	4
Alex. McIntosh, Brooks' Creek.....	3
James H. Smith, Minooka.....	4
W. C. Burleigh, Pontiac.....	3

LOGAN COUNTY:

H. A. Goff, Skelton.....	4
C. L. Downey, Atlanta.....	3
Sorrell Doten, Mt. Pulaski.....	4
S. H. Harts, Hartsburg.....	4
W. C. Maull, Middletown.....	4

MACON COUNTY:

T. H. Barr, Argenta.....	4
H. W. Davis, Decatur.....	5
V. Barber, Decatur.....	3
G. Elliott, Hartsstown.....	3

MACOUPIN COUNTY:

J. H. Baurer, Bunker Hill.....	3
John P. Henderson, Virden.....	4
George W. Hilliard, Brighton.....	4
H. J. Loomis, Chesterfield.....	4
I. B. Vancil, Vancil's Point.....	3

MADISON COUNTY:

V. P. Richmond, Moro.....	4
Irby Williams, Upper Alton.....	4
B. R. White, Collinsville.....	1
E. J. Jeffress, Marine.....	3
E. W. Mudge, Grant Fork.....	1
John Balsige, Highland.....	4

MARION COUNTY:

Henry C. Feliman, Salem.....	3
J. W. Jennings, Walnut Hill.....	1
Dale W. Carter, Hickory Hill.....	2

MARSHALL COUNTY:

George F. Wightman, Lacon.....	2
Henry Reader, Henry.....	4
Henry Titus, Farland.....	4
D. B. Wier, Lacon.....	3

MASON COUNTY:

D. W. Riner, Mason City.....	1
J. B. Conover, Kilbourne.....	3
H. C. McIntire, Havana.....	3
E. J. Bowser, Bishop Station.....	3
J. M. Ruggles, Havana.....	4

MASSACHUSETTS COUNTY:

J. I. Gray, New Columbia.....	3
J. M. Choat, Metropolis.....	4
A. Brady, Pellonia.....	2
J. C. Gebhart, Massac Creek.....	3

MCDONOUGH COUNTY:

James N. Devore, Bushnell.....	1
J. R. Lounes, Table Grove.....	3
Samuel Frost, Macomb.....	4
W. H. Greene, Bardolph.....	1
John B. Isom, Blandinsville.....	2

MC HENRY COUNTY:

E. H. Seward, Marengo.....	4
James Crow, Crystal Lake.....	4
Sidney Disbrow, Alden.....	4
T. McD. Richards, Woodstock.....	4

MCLEAN COUNTY:

C. H. Vandervoort, Randolph.....	4
John A. Ewins, Danvers.....	4
Nelson Jones, Towanda.....	4
Win. H. Oglevee, Heyworth.....	2
John McCoy, Lexington.....	3
Sylvester Peasley, Downs.....	3
Daniel McFarland, McLean.....	3
R. M. Guy, Leloy.....	4

MENARD COUNTY:

W. W. Lynn, Tallula.....	4
Thomas Kincaid, Athens.....	3
E. B. Godbey, Greenview.....	4
John F. Fulton, Petersburg.....	4
S. D. Masters, Petersburg.....	3

MERCER COUNTY:

Josiah Candor, Hamlet.....	4
D. H. Hayes, Aledo.....	2
Daniel W. Sedwick, Suez.....	4
William A. Griffin, New Windsor.....	2
Joseph U. David, New Windsor.....	3

MONROE COUNTY:

Louis Thorn, Harrisonville.....	3
L. Warnock, Columbia.....	3
George Frick, Hecker.....	4
Bennett James, Michie.....	4

MONTGOMERY COUNTY:

E. W. Miller, Raymond..... 4
 A. F. Weaver, Nokomis..... 4
 John H. Beatty, Nokomis..... 3
 W. F. Hicks, Raymond..... 3

MORGAN COUNTY:

James C. Fairbank, Concord..... 4
 S. S. Dewees, Alexander..... 4
 John Gordon, Lynnville..... 3
 S. D. Masters, Murrayville..... 1
 R. C. Curtiss, Waveily..... 3

MOULTRIE COUNTY:

B. R. Cole, Lovington..... 3
 Wm. Kirkwood, Sullivan..... 4
 Alfred N. Smyser, Sullivan..... 2
 F. M. Porter, Lovington..... 4
 John Bowers, Williamsburgh..... 2

OGLE COUNTY:

J. A. Atwood, Stillman Valley..... 4
 J. L. Moore, Polo..... 1
 A. D. Clark, Kyte River..... 3
 W. B. Derriek, Baileyville..... 4
 J. W. Knapp, Monroe..... 3

PEORIA COUNTY:

G. C. Clark, Peoria..... 3
 M. H. Snyder, Elmwood..... 4
 John A. McCoy, French Grove..... 3
 H. Truitt, Chillicothe..... 4
 Joseph Gallup, Chillicothe..... 3

PERRY COUNTY:

Alex. P. Baird, Four Mile..... 4
 H. L. Burbank, DuQuoin..... 4
 J. C. Kinzie, Tamaroa..... 3
 James Ervin, Coulterville..... 2

PIATT COUNTY:

D. W. Smith, Farmer City..... 2
 Ezra Marquis, Sr., Monticello..... 4
 John W. O. Gray, Mackville..... 4
 John H. Murphey, Bement..... 3

PIKE COUNTY:

W. B. Wilson, Nebo..... 2
 J. O. Bolin, Milton..... 3
 George Stebbins, Summer Hill..... 4
 W. R. Wills, Pittsfield..... 3
 W. H. Yates, Perry..... 2

POPE COUNTY:

H. G. Cloud, New Liberty..... 1
 J. H. Benham, Rose Bud..... 3
 J. E. Y. Hanna, Golconda..... 3
 N. O. Weaver, New Liberty..... 4
 Jasper N. Maynor, Eddyville..... 1

PULASKI COUNTY:

H. C. Fearnside, Villa Ridge..... 4
 R. C. Calvin, Olmstead..... 2
 J. H. Crain, Villa Ridge..... 3

PUTNAM COUNTY:

W. Durlay, Hennepin..... 4
 Joshua L. Mills, Mt. Palatine..... 4
 George Hayslip, Granville..... 4

RANDOLPH COUNTY:

D. R. McMaster, Sparta..... 3
 J. G. Eliff, Red Bud..... 2
 J. H. Mace, Percy..... 3
 Hugh Easdale, Tilden..... 3
 S. W. McKelvey, Sparta..... 4

RICHLAND COUNTY:

R. C. Morris, Olney..... 4
 S. M. Thompson, Parkersburg..... 4
 John Camp, Claremont..... 4
 W. E. Alcorn, Noble..... 4

ROCK ISLAND COUNTY:

Jesse S. Dalley, Cordova..... 3
 John Buffum, Andalusia..... 4
 Fred. Osborn, Osborn..... 3
 J. A. Jordan, Orion..... 3
 James Taylor, Taylor Ridge..... 2

SALINE COUNTY:

W. M. Joyner, Stone Fort..... 2
 M. W. Willis, El Dorado..... 3
 Jonathan Abney, Gallatia..... 4

SANGAMON COUNTY:

M. D. McCoy, Rochester..... 2
 Watson Pickrell, Mechanicsburg..... 4
 George M. Caldwell, Williamsville..... 3
 H. J. Conover Bates..... 4
 George P. Weber, Pawnee..... 4

SCHUYLER COUNTY:

T. J. Window, Littleton..... 4
 R. C. Noyes, Camden..... 2
 John M. Darnell, Pleasant View..... 2
 Lewis D. Erwin, Rushville..... 4
 Simon Doyle, Rushville..... 4

SCOTT COUNTY:

Henry L. Gordon, Winchester..... 3
 J. M. Leighton, Manchester..... 3
 Henry Miner, Winchester..... 3
 George W. Martin, Winchester..... 3

SHELBY COUNTY:

John Turner, Tood's Point..... 4
 Charles W. March, Mowesqua..... 4
 E. A. McCracken, Lakewood..... 3
 L. H. Turner, Strasburg..... 4

STARK COUNTY:

John Luckie, Osceola..... 4
 H. H. Oliver, Toulon..... 4
 William Nowlan, LaFayette..... 4
 J. M. Thomas, Wyoming..... 3
 J. H. Anthony, West Jersey..... 3

ST. CLAIR COUNTY:

D. F. Miller, Belleville..... 4
 M. T. Stookey, West Belleville..... 3
 James H. Scott, Shiloh..... 1
 John W. Wells, Marissa..... 3
 Jacob Gundlach, Belleville..... 4

STEPHENSON COUNTY:

H. J. Porter, Freeport..... 2
 Giles Turneaur, Freeport..... 4
 F. B. Walker, Dakota..... 4
 C. H. Rosenstiel, Freeport..... 3
 Hiram Snyder, Lena..... 4

TAZEWELL COUNTY:

M. W. Messinger, Morton..... 2
 J. B. Allen, Delavan..... 4
 George W. Minter, Minier..... 2
 D. Sapp, Pekin..... 3

UNION COUNTY:

H. C. Bouton, Anna..... 2
 W. J. Willard, Jonesboro..... 4
 F. E. Peebles, Cobden..... 1
 Thomas A. H. Holcomb, Cobden..... 4

VERMILION COUNTY:

Fred. Tilton, Rossville..... 1
 Robert Barnett, Indianola..... 3
 J. H. Oakwood, Catlin..... 4
 S. H. Oakwood, Pilot..... 3
 J. C. Pierce, Ridge Farm..... 2
 J. G. English, Danville..... 2
 Thomas Armstrong, Rossville..... 1

WABASH COUNTY:

John F. Harrington, Allendale..... 4
 John W. Habberton, Mount Carmel..... 4
 Joseph Lutherland, Allendale..... 3
 M. L. Tilton, Mount Carmel..... 3
 Thomas Bigy, Mount Carmel..... 3

WARREN COUNTY:

Henry Tubbs, Kirkwood.....	4
D. C. Graham, Cameron.....	4
J. D. Porter, Alexis.....	3
John A. Gordon, Roseville.....	3

WASHINGTON COUNTY:

Henry Hoffman, Nashville.....	1
William C. Spencer, Dubois.....	4
John W. Yost, Beaucoup.....	2
H. H. Meyer, Stone Church.....	4

WAYNE COUNTY:

Henry Cramer, Mount Erie.....	1
John Wilson, Fairfield.....	3
L. M. Cisne, Cisne.....	4
A. M. Cable, Fairfield.....	4
G. M. Carr, Johnsonville.....	4

WHITE COUNTY:

John A. Spencer, Norris City.....	4
Ezekiel Hunsinger, Burnt Prairie.....	4
Nathan Caley, Enfield.....	4
John Land, Carmi.....	4
Boone Kershaw, Grayville.....	3

WHITESIDE COUNTY:

W. H. Colcord, Coleta.....	2
J. F. Happer, Albany.....	1
L. S. Pennington, Sterling.....	4
P. B. Reynolds, Prophetstown.....	1

WILL COUNTY:

Jacob Smith, Lockport.....	4
J. N. Fryer, Channahon.....	2
C. A. Wesigate, Peotone.....	3
J. B. Fisher, DuPage.....	3

WILLIAMSON COUNTY:

L. M. Mitchell, Corinth.....	4
D. R. Harrison, Herrin's Prairie.....	4
Geo. W. Davis, Crab Orchard.....	4
James M. Washburn, Carterville.....	2

WINNEBAGO COUNTY:

J. M. Herring, Durand.....	2
J. H. Kirk, Rockford.....	4
H. J. Rolasen, Durand.....	3
Webster Osborn, Winnebago.....	3
Wm. Atkinson, Harrison.....	4
C. A. Starr, Durand.....	4

WOODFORD COUNTY:

Joseph Wylie, Minonk.....	3
L. A. Gilpin, Cazenovia.....	4
A. H. Brubaker, Benson.....	2
A. A. Richardson, Secor.....	3

A very large proportion of the Correspondents made all the reports (4) called for in 1879, as will be seen by the figures opposite their respective names.

SUMMARY of Meteorological Observations for the month of January, 1879, made to the Illinois Department of Agriculture, Springfield, February 1. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.						BAROMETER.						WIND.		RAIN AND SNOW.			No. of days on which cloudiness averaged 0.8 or more...		Ozone	Relative humidity			
	Highest		Lowest		Mean		Range of		Highest		Lowest		Prevailing		Days on which rain or snow fell.		Total rainfall or melted snow		Depth of snow at close of month		No.		Deg.	Deg.
	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Direct'n.	Miles per hour.	No.	Inch.	Inch.	Inch.	Inch.	No.	Deg.	Deg.		
NORTHERN DIVISION.																								
County. Post Office.																								
Boone.....	44	-24	14	68	38	-18	29.55	29.33	29.28	72	29.63	29.91	sw.s.&w.	5	5	1.04	12	12	2	.....	.....	.....	.....
Kane.....	40	-22	15	62	38	-16	29.55	29.33	29.28	72	29.63	29.91	W.	3	3	1.00	12	12	7	.....	.....	.....	.....
Elgin.....	43	-22	14	65	36	-18	29.55	29.33	29.28	72	29.63	29.91	NW.	5	5	.85	.....	.....	.....	.....	.....	.....	.....
Geneseo.....	43	-24	13	64	36	-20	29.55	29.33	29.28	72	29.63	29.91	nw sw.	3	3	.50	3	3	15	.....	.....	.....	.....
McHenry.....	40	-24	16	72	39	-19	29.55	29.33	29.28	72	29.63	29.91	W.	3	3	.15	.....	.....	7	.....	.....	.....	.....
Pulaski.....	48	-24	15	68	38	-18	29.55	29.33	29.28	72	29.63	29.91	W.	3	3	.15	.....	.....	7	.....	.....	.....	.....
Winnebago.....	46	-22	15	68	38	-18	29.55	29.33	29.28	72	29.63	29.91	W.	3	3	.15	.....	.....	7	.....	.....	.....	.....
CENTRAL DIVISION.																								
Brown.....	53	-22	23	80	46	-9	29.55	29.33	29.28	72	29.63	29.91	W.	4	4	1.05	.....	.....	13	.....	.....	.....	.....
Hancock.....	49	-26	18	75	41	-15	29.55	29.33	29.28	72	29.63	29.91	W.	3	3	1.05	.....	.....	10	.....	.....	.....	.....
Peoria.....	46	-21	19	67	43	-16	29.55	29.33	29.28	72	29.63	29.91	W.	3	3	1.05	.....	.....	8	.....	.....	.....	.....
Starke.....	46	-26	12	72	34	-22	29.55	29.33	29.28	72	29.63	29.91	W.	3	3	.28	8	8	13	.....	.....	.....	.....
SOUTHERN DIVISION.																								
Alexander.....	64	6	35	70	60	-6	30.74	30.79	30.25	97	30.89	30.91	NW.	3	13	2.81	0	0	14	.....	.....	.....	73.73
Clay.....	56	-18	29	74	47	-6	30.74	30.79	30.25	97	30.89	30.91	nw se.	6	7	1.46	7.5	7.5	11	.....	.....	.....	.....
St. Marie.....	60	-20	24	82	51	-11	30.74	30.79	30.25	97	30.89	30.91	NW.	7	7	5.40	.....	.....	.....	.....	.....	.....	.....
Jefferson.....	62	-16	27	78	56	-8	30.74	30.79	30.25	97	30.89	30.91	na s w n	4	7	1.97	0	0	23	.....	.....	.....	.....
Madison.....	725	-12	26	70	54	-6	30.74	30.79	30.25	97	30.89	30.91	sw nw	4	3	2.48	0	0	14	.....	.....	.....	.....
Marion.....	62	-18	25	80	49	-8	30.74	30.79	30.25	97	30.89	30.91	NW.	4	13	2.48	0	0	11	.....	.....	.....	.....
Pope.....	66	-13	30	79	59	-3	30.74	30.79	30.25	97	30.89	30.91	N. NW.	4	5	.....	.....	.....	10	.....	.....	.....	.....
Grayville.....	64	-18	42	82	59	-3	30.74	30.79	30.25	97	30.89	30.91	N. NW.	4	5	.....	.....	.....	10	.....	.....	.....	.....
White.....	64	-18	42	82	59	-3	30.74	30.79	30.25	97	30.89	30.91	N. NW.	4	5	.....	.....	.....	10	.....	.....	.....	.....

REMARKS FOR JANUARY.

BELVIDERE.—G. B. Moss, Observer: The 2d was the coldest day since 1876. Mean temperature, 1st to 5th inclusive— $8^{\circ}.76$.

GENESIO.—W. T. Allen, Observer: Lunar halo on 31st.

MARENGO.—John W. James, Observer: January's mean temperature has been $5^{\circ}.2$ below the mean of sixteen Januarys past; those of 1868, 1875 and 1877 were colder. Thermometer below zero from 9 p. m. on the 1st to 10 a. m. on the 5th—a period of 85 hours. Mean temperature 1st to 20th was $4^{\circ}.7$; from 22d to 31st, $23^{\circ}.6$. Thermometer below freezing point from December 10, 1873, to January 22, 1879, a period of 43 days. Amount of rain and melted snow has been 0.94 inches—below the usual amount. January, 1863, '66 and '67 were dryer. Solar halos on the 14th and 20th; Lunar halo on the 30th.

HENNEPIN.—Ethan Osborn, Observer: Solar halos on the 17th, 21st, 22d, 23d and 30th; Lunar halos on the 8th, 10th and 30th.

DURAND.—C. A. Starr, Observer: The month has been free from winds and storms. Only two flurries of snow during the month.

FINTRA.—O. A. Blanchard, Observer: Solar halo on the 30th; Lunar halos on the 8th and 30th; Parselens at 11 p. m. on the 1st; Parabellia on the 2d at 9 a. m.; on the 3d at 7 a. m.; on the 18th at 3:45 p. m., and on the 25th at 4 p. m.

PEORIA.—Fred. Brendel, Observer: Frost every day, except 25th, 26th and 27th. Lunar halo on the 30th, 8 p. m.; radius 25° .

AUGUSTA.—S. B. Mead, Observer: Seven weeks good sleighing previous to the 20th. Cold was severe. Has been no such cold spell here since 1833. Lunar halo on the 12th. Nine inches snow fell during the month.

MT. STERLING.—Wm. W. Bower, Observer: Parselene on the 10th at 9 p. m. Very remarkable redness of the sky from sunset to 6:15 p. m. on the 24th.

ST. MARIE.—James Picquet, Observer: Heavy snow on the 7th— $7\frac{1}{2}$ inches. Had one month sleighing up to the 21st. Snow all gone on the 23d. Lunar halos on the 5th, 11th, 12th and 20th. Thunder storm on the 28th.

MT. VERNON.—L. H. Johnson, Observer: Frosts January 24, 26, 28, 29, 30 and 31. Lunar halo on the 4th.

UPPER ALTON.—W. Leverett, Observer: Thunder on the 28th and 29th, with light showers. Frosts on the 13th and 14th—trees, shrubs, etc., covered until noon.

CENTRALIA.—J. L. Hallam, Observer: Eighteen below zero on the 4th. Eight inches of snow fell on the 7th. Many of our useful birds have died for the want of protection and food. Snow gone and frost out of the ground on the 24th. Distant thunder in the northwest on the 28th. Wheat and grass green on the 31st.

GRAYVILLE.—J. S. Rhinehart, Observer: Most of the month very cold. The last of the month was spring-like.

CAIRO.—W. R. Smith, Observer: Lunar halos on the 2d, 3d, 4th, 5th, 6th, 9th and 24th.

SUMMARY of Meteorological Observations for the month of February, 1879, made to the Illinois Department of Agriculture, Springfield, March 1, 1879. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.						BAROMETER.						WIND.		RAIN AND SNOW.			No of days on which cloudi- ness averaged 0 8 or more..		Ozone.....	Relative humidity	
	Highest	Lowest.....	Mean.....	Range of.....	Highest daily mean.....	Lowest daily mean.....	Highest	Lowest.....	Mean.....	Range of.....	Highest daily mean ..	Lowest daily mean	Direct'n.	M's	Days on which rain or snow fell.....	Total rainfall or melted snow.....	Depth of snow at close of month	No.	Deg.	Deg.	Deg.	
NORTHERN DIVISION.																						
County. Post-office.																						
B one..... Belvidere.....	810	-21	21	67	40	-5	29.65	28.78	29.26	.87	29.62	28.83	S. NW. & N	5	11	1.36	6	10				
K one..... Elgin.....	777	-12	21	38	38	-2							N. & NW.	4	6	.52	4	13				
McHenry..... Marengo.....	925	-20	19	62	38	-6							NW.	4	10	1.54	6.5	8				
Henry..... Geneseo.....	798	-11	22	60	35	-3							NW. & SE.	4	8	2.	10	8				
Winnebago..... Durand.....		-21	21	67	40	0							W.	3	5							
CENTRAL DIVISION.																						
Brown..... Mt. Sterling.	525	-3	32	63	45	9							W.	6	7	1.15	0	4				
Hancock..... Augusta.....	681	-4	28	57	43	2							NW.	7	9	.79	0	19				
Peoria..... Peoria.....	460	-3	27	55	40	5	30.12	29.20	29.74	.92	30.09	29.28	W.	5	8	.97	0	9		73		
Stark..... Elmira.....		-11	20	57	39	-5									10	.24	0					
SOUTHERN DIVISION.																						
Alexander..... Cal'o.....	368	8	38	79	67	20	30.62	29.53	30.20	1.04	30.54	29.71	NW.	5	10	2.08	0	10		63.4		
Jasper..... St. Marie.....		-5	31	60	47	5							NW.	3	10	1.28	4.5	9				
Jefferson..... Mt. Vernon.....		-4	48	70	58	8									5	6.4						
Madison..... Upper Alton.....	725	2	37	57	49	10	30.58	29.74	30.31	1.04	30.58	29.83	S. NW. & N	5	8	1.21	0	25				
Marion..... Cent'alia.....		-5	33	64	52	7							NW. & NW.	5	8			0	21			
Pope..... Galena.....		4	33	62	51	11							NW. & W.	5	9	2.39	0	9				
White..... Grayville.....		-4	33	66	56	10							NW.	6	8			10				

REMARKS FOR FEBRUARY.

BELVIDERE—G. B. Moss, Observer. Mean temperature of twelve Februaries (1868 to 1879) 22° . 90—1875 being the coldest (4° . 82), and 1878 the warmest (32° . 72). Mean temperature of winter (Dec. 1 to Feb. 28) 16° . 76; of twelve winters 21° . 26. Coldest winter (1874-75), 12° . 46; warmest (1877-78), 22° . 63. Mean precipitation of eleven Februaries, 1.43 inches—1868 being the wettest (2.69) inches, and 1877 the driest (0.20 inches).

MAINGO—J. W. James, Observer. Solo halos on the 5th and 28th. lunar halo on the 2d. February's mean temperature has been 3° . 7 lower than usual. February '60, '68, '73 and '77 were colder. The 26th was the most blustering and uncomfortable day of the whole winter; the amount of rain and melted snow 0.33 inches more than usual. The temperature of the winter of 1878-9 was 15° . 7 or 5° . 1 lower than usual. The winters of '72-3 and '74-5 were the only colder ones. The precipitation for the winter was 4.85 inches, or 0.10 inch less than usual. Total depth of snow, 42 inches.

ARGUSTA—S. B. Mead, Observer. February 16, snow at 7 A. M. 9 inches deep; at 10 A. M. 6 inches. Began again to snow at 11:45 A. M., but melted as fast as it fell, nearly rain to 3-30 P. M.; 25th, 7 A. M. wind northwest; soon after turned to northeast; at 7:30 A. M. again turned to northwest; strong wind at 7:15 P. M.; $1\frac{1}{2}$ inches snow; $1\frac{1}{2}$ inches snow fell during the month.

ELMIRA—O. A. Blanchard, Observer. Solar halo at 4 P. M. on the 23d. Parhelia at 3.22 P. M. on the 10th, at 3:4 P. M. on the 13th, and 7 A. M. on the 14th.

PEORIA—Fred Brendel, Observer. Frost every day except 10th, 11th and 22d.

MT. STERLING—Wm. W. Bowers, Observer. Snow on the 1st; on the 25th, rain in the morning, snow at 4 P. M., and very high wind. Parhelia double at 8:30 A. M. on the 26th. Frosts, 1st, 2d, 7th, 8th, 19th and 20th.

ST. MARIE—James Picquet, Observer. Rain on the 4th (ending in snow) and 22d; on the 25th, rain, lightning and thunder; snow on the 6th, 12th and 16th; lunar halo on the 27th.

CENTRALIA—J. L. Hallam, Observer. Snow fell on the 13th, 15th, 16th, 17th; distant thunder on the 22d. Frosts every day except 4th, 24th and 28th.

GOLCONDA—J. E. Y. Hanna, Observer. Very brilliant meteor in northwest on the 9th, at 7:30 P. M. Thunder storm on the 22d.

GRAYVILLE—J. S. Rhinehart, Observer. Snow fell on five days, and rain on three days. Seven inches snow fell during the month. High wind on the night of the 27th.

OAHO—Wm. E. Smith, Observer. Thunder storms on the 22d and 25th; frosts on the 1st, 2d, 3d, 7th, 8th, 9th, 14th, 16th, 20th, 21st and 23d; solar halos on the 14th and 15th; lunar halos on the 3d, 8th, 9th and 28th.

REMARKS FOR MARCH.

BELVIDERE.—G. R. Moss, Observer. Slight rain on the 4th. Snow all gone. Some rain during the evening of the 5th, with vivid lightning and heavy thunder. Robins, blue-birds, kildrees, meadow-larks and wild geese seen on the 8th. Frogs piping on the 9th. From 14th to 20th mean temperature below 32° each day, with wind northwest most of the time.

ELGIN.—E. L. Giddings, Observer. Rain fell on the 5th, 8th, 9th, 26th and 28th, thunder accompanying on the 5th, 9th and 28th. Snow fell on the 20th, 21st and 22d.

MARENGO.—J. W. James, Observer. The temperature of March has been 40.15 above the usual mean. In 18 years only March 1867, 1871 and 1878 have been warmer. The amount of rain and melted snow has been a trifle more than 7-18 the usual amount, only March 1869 and 1875 were drier. First thunderstorm on the 5th. Never before saw such vivid, blinding lightning at this season of the year. Thunderstorm on the 9th. Meadow larks, snipe and wild geese came on the 8th, and robins on the 9th. Some farmers plowing and sowing grain on the 10th. Frosts on the 1st, 7th, 10th, 23d, 25th, 27th, 29th and 31st. Solar halo on the 15th.

DURAND.—C. A. Starr, Observer. Thunderstorm on the 29th. Lunar halo on the 26th.

ELMIRA.—O. A. Blanchard, Observer. Thunder shower on the 5th. Arrival of robins. Ducks going northward on the 6th, and geese going north on the 7th. Diffuse lightning in the southwest between 6 and 8 p. m. on the 10th, and frogs croaking.

AUGUSTA.—S. B. Mead, Observer. Snow fell on the 1st, 2d, 3d, 11th, 16th, 18th and 20th—total 9½ inches. Rain fell on the 6th, 21st, 28th and 31st. On the 28th occurred the first thunder shower this spring.

PEORIA.—Fred. Brendel, Observer. Thunderstorms on the 5th, 6th, 9th, 10th and 28th. Frosts on the 1st, 2d, 3d, 5th, 11th, 21st and 25th. Lunar hale on the 4th.

MT. STERLING.—Wm. W. Bower, Observer. Thunderstorms on the 10th, 26th, 28th. Hail on the 1st, 2d, 20th and 21st. Frosts on the 5th, 11th, 12th and 23d. Smoky on the 8th and 9th, and heavy fog on the 22d.

UPPER ALTON.—W. Leverett, Observer. Trees and shrubs incased in ice on the 2d and 3d, and on the 4th till noon. Dense fog morning of the 5th. Thunder on the 8th, 9th, 10th, 21st and 28th. Light snow on the 13th, 14th, 16th and 18th.

CENTRALIA.—J. D. Hallam, Observer. Rain accompanied by thunder on the 10th and 21st. and snow storm with thunder and lightning on the 16th.

LOUISVILLE.—D. H. Chase, Observer. Thunderstorms on the 10th, 26th, 28th and 31st.

St. MARIE.—James Picquet, Observer. Thunderstorms on the 9th, 10th, 26th, 28th and 29th. Hail on the 10th and 21st. On the 7th the mean thermometer reached 71° 34, after which it gradually descended to 16° 34 on the 17th; that night it went down to 1° 50, and to zero at 7 a. m. on the 18th. From that date to the 28th gradual rising of the mercury, when at 5 30 p. m. a violent shower brought down in half an hour 1 24 inches of water. The frequency of thunderstorms and fall of hail twice are unusual in March.

MT. VERNON.—L. H. Johnson, Observer. Thunderstorms on the 10th and 25th. Hail on the 16th, accompanied by snow and thunder.

GRAYVILLE.—J. S. Rhinchart, Observer. Thunderstorm on the 20th, 21st, 25th, 28th and 29th. Hail on the 20th and 21st. Frost on the 12th, 16th, 19th and 31st.

GOLCONDA.—J. E. Y. Hanna, Observer. Thunderstorms on the 10th, 21st, 26th and 28th. Hail on the 21st. Sleet 1 inch deep on the 16th, and light snow on the 17th. Frosts on the 12th, 15th and 23d. Solar halos on the 11th and 13th.

CAIRO.—Wm. R. Smith, Observer. Thunderstorms on the 10th, 11th, 22d, 26th and 28th. Hail fell on the 26th and sleet all day on the 16th. Frost on the 12th, 14th, 15th, 18th, 19th, 23d, 25th and 31st. Solar halos on the 11th, 24th, 25th and 27th.

SUMMARY of Meteorological Observations for the Month of April, 1879, made to the Illinois Department of Agriculture, Springfield, May 1, 1879. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.						BAROMETER.						WIND.		RAIN AND SNOW.			No. of days on which cloudiness averaged 0.8 or more...		Ozone.....	Relative humidity.....
	Highest	Lowest	Mean	Range of	Highest daily mean	Lowest daily mean	Highest	Lowest	Mean	Range of	Highest daily mean	Lowest daily mean	Prevailing	Maximum velocity or force—miles per hour	Days on which rain or snow fell.....	Total rainfall or melted snow	Depth of snow at close of month	No.	Deg.	Deg.	
NORTHERN DIVISION.																					
County.																					
Roone.....	85	23	45	63	70	23	29.51	28.46	29.20	1.05	29.49	28.68	N. & N.W.	5	6	2.12	.....	4	.....	.....
Henry.....	87	19	47	68	69	26	29.51	28.46	29.20	1.05	29.49	28.68	S. & S. E.	5	4	1.9	.....	.....	.....
Geneseo.....	77	12	46	67	69	21	29.51	28.46	29.20	1.05	29.49	28.68	ne nw & S	4	3	2.14	.....	.....	.....
Kane.....	77	8	45	76	69	20	29.51	28.46	29.20	1.05	29.49	28.68	E.	3	4	2.3	.....	.....	.....
McHenry.....	84	12	47	77	71	22	29.51	28.46	29.20	1.05	29.49	28.68	.....	.....	.....	2.2	.....	.....	.....
Winnebago.....	89	12	47	77	71	22	29.51	28.46	29.20	1.05	29.49	28.68	.....	.....	.....	2.2	.....	.....	.....
CENTRAL DIVISION.																					
Brown.....	84	22	54	62	74	32	29.87	29.03	29.64	.84	29.85	29.17	S. E.	5	7	1.6	.....	6	.....	.....
Hancock.....	83	25	52	58	71	29	29.87	29.03	29.64	.84	29.85	29.17	N. W.	5	5	1.26	.....	13	.....	.....
Peoria.....	86	19	53	67	74	31	29.87	29.03	29.64	.84	29.85	29.17	E.	5	6	2.95	.....	8	57.9	.....
Starke.....	88	18	47	68	69	25	29.87	29.03	29.64	.84	29.85	29.17	.....	.....	.....	2.16	.....	.....	.....	.....
SOUTHERN DIVISION.																					
Clay.....	84	25	54	59	72	31	29.87	29.03	29.64	.84	29.85	29.17	S. W. & N. W.	8	6	2.6	.....	10	.....	.....
Louisville.....	86	27	53	59	73	32	29.87	29.03	29.64	.84	29.85	29.17	S. E.	6	10	2.27	.....	7	.....	.....
Jasper.....	86	25	53	59	73	32	29.87	29.03	29.64	.84	29.85	29.17	.....	.....	.....	2.27	.....	.....	.....	.....
Jefferson.....	80	33	52	62	68	39	29.87	29.03	29.64	.84	29.85	29.17	ne & n. w.	5	6	2.57	.....	27	.....	.....
St. Marie.....	86	27	56	62	75	34	29.87	29.03	29.64	.84	29.85	29.17	S. W. & S. E.	5	4	2.15	.....	16	.....	.....
Upper Alton.....	725	90	54	62	75	33	29.87	29.03	29.64	.84	29.85	29.17	N. W.	5	11	3.89	.....	7	.....	.....
Madison.....	88	23	54	62	75	33	29.87	29.03	29.64	.84	29.85	29.17	W. N. & W.	8	8	.....	.....	.....	.....	.....
Marion.....	88	23	54	62	75	33	29.87	29.03	29.64	.84	29.85	29.17	.....	.....	.....	.....	.....	.....	.....	.....
Centralla.....	88	23	54	62	75	33	29.87	29.03	29.64	.84	29.85	29.17	.....	.....	.....	.....	.....	.....	.....	.....
Pope.....	88	23	54	62	75	33	29.87	29.03	29.64	.84	29.85	29.17	.....	.....	.....	.....	.....	.....	.....	.....
Golconda.....	88	23	54	62	75	33	29.87	29.03	29.64	.84	29.85	29.17	.....	.....	.....	.....	.....	.....	.....	.....
White.....	88	23	54	62	75	33	29.87	29.03	29.64	.84	29.85	29.17	.....	.....	.....	.....	.....	.....	.....	.....
Grayville.....	88	23	54	62	75	33	29.87	29.03	29.64	.84	29.85	29.17	.....	.....	.....	.....	.....	.....	.....	.....

REMARKS FOR APRIL.

BELVIDERE.—G. B. Moss, Observer. Mean temperature $45^{\circ} .48$. Mean of 13 years $45^{\circ} .49$, 1878 being warmest ($53^{\circ} .27$) and 1874 the coldest ($37^{\circ} .74$). Frost on the 1st to 10th and 14th to 18th. Precipitation for the month 2.12 inches; mean for 11 years 2.5 inches, 1870 being the driest (0.69) and 1876 the wettest (4.01). Furious snow storm of $5\frac{1}{2}$ inches on the 2d. Rain on 9th, 10th, 13th, 18th and 21st.

DURAND.—C. A. Starr, Observer. Frosts on the 28th and 30th. Fears entertained for fruit.

ELGIN.—E. L. Giddings, Observer. Frosts on the 1st, 2d, 3d, 4th, 5th, 6th, 7th, 10th, 11th, 14th, 15th, 16th, 17th, 19th, 29th and 30th.

MARENGO.—J. W. James, Observer. Mean temperature of April $0^{\circ} .79$ above the usual mean. Mean of first 20 days $38^{\circ} .07$, of last 10 days $58^{\circ} .4$, a difference of $10^{\circ} .33$. The amount of rain and melted snow 0.43 inches less than usual. Frost 1st, 8th, 11th, 12th, 14th, 18th, 20th and 30th. Aurora on the 19th, and solar halo on the 12th.

ELMIRA.—O. A. Blanchard, Observer. Three thunder showers during the day and night of the 9th. Perihelia on the 16th at 5:45 P. M. Slight frosts on the 28th and 30th. Cherry blossoms on the 25th, apple on the 27th and pear on the 28th.

PEORIA.—Fred. Brendel, Observer. Thunder storms on the 6th and 9th. Frost on the 2d, 3d, 4th and 5th.

MT. STERLING.—W. W. Bowser, Observer. Thunder storms on the 6th and 9th; on the latter date accompanied with hail, some nearly one inch in diameter, heaviest went northwest of here, with heavy rushing sound, similar to cars running at great speed. Hail reported four inches deep from one to two miles from here. Frost on the 2d, 8th and 17th. Ice on 3d, 4th and 5th. Solar halo on the 16th about noon.

AUGUSTA.—S. B. Mead, Observer. Thunder storm on the 6th and 9th. Frost on the 2d, 3d, 4th, 5th, 12th and 18th. Ground very dry since the 14th.

LOUISVILLE.—D. H. Chase, Observer. Thunder storms on the 15th and 27th. Hail on the 15th. Frost on the 1st, 2d, 3d, 4th, 5th, 6th, 12th, 18th and 19th. Lunar halos on the 28th and 29th. Spring one month late. On the 11th migrating birds plenty.

ST. MARIE.—James Picquet, Observer. Thunder storms on the 9th and 14th. Frost on the 3d, 4th, 6th and 18th. Solar halo on the 12th, and lunar halos on the 21st, 25th and 27th. High wind at night on the 2d, followed by light trace of snow. High wind on the 30th at night.

UPPER ALTON.—W. Leverett, Observer. Thunder storm on the 8th, 9th, 10th and 14th. Storm on the 9th accompanied with rain, hail and high wind. Frost on 2d, 3d, 4th, 5th and 17th.

CENTRALIA.—J. L. Hallam, Observer. Thunder storm on the 9th and 14th. Frost on the 2d, 17th, 18th, 19th, 20th and 28th. On the 2d ice formed $\frac{3}{4}$ of an inch thick.

GOLCONDA.—J. E. Y. Hanna, Observer. Thunder storms on the 6th, 9th, 14th and 30th. Frost on the 2d, 4th, 5th and 12th. Lunar halo on the 29th.

GRAYVILLE.—J. L. Rhinehart, Observer. Thunder storms on the 16th and 26th. Frost on the 1st, 2d, 3d, 4th and 15th. Light snow on the morning of the 3d. High wind on the 14th, almost a hurricane; no serious damage done.

SUMMARY of Meteorological Observations for the month of May, 1879, made to the Illinois Department of Agriculture, Springfield, June 1, 1879. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.						BAROMETER.				WIND.		RAIN AND SNOW.			Ozone.....	Relative humidity.....	
	Highest.....	Lowest.....	Mean.....	Range of.....	Highest daily mean....	Lowest daily mean....	Highest.....	Lowest.....	Mean.....	Range of.....	Highest daily mean....	Lowest daily mean....	Days on which rain or snow fell.....	Total rainfall or melted snow.....	Depth of snow at close of month.....	No. of days on which cloudiness averaged 0.8 or more.	Deg.	Deg.
NORTHERN DIVISION.																		
County. Postoffice.																		
Boone.....	93	38	59	55	80	45	29.02	23.87	29.23	75	23.58	23.83	8	3.78	.....	4	.....	.....
Polk.....	87	37	59	40	77	47	29.02	23.87	29.23	75	23.58	23.83	6	2.1	.....	10	.....	.....
Henry.....	87	37	59	59	77	44	29.02	23.87	29.23	75	23.58	23.83	6	5.81	.....	6	.....	.....
Kane.....	87	37	59	59	77	43	29.02	23.87	29.23	75	23.58	23.83	8	4.97	.....	6	.....	.....
McHenry.....	82	30	58	61	70	43	29.02	23.87	29.23	75	23.58	23.83	8	4.17	.....	6	.....	.....
Winnebago.....	82	28	58	61	70	43	29.02	23.87	29.23	75	23.58	23.83	8	4.17	.....	6	.....	.....
CENTRAL DIVISION.																		
Brown.....	90	41	70	46	83	56	30.03	23.25	29.61	77	23.93	23.35	6	0.5	.....	8	.....	.....
Mt. Sterling.....	89	42	66	47	80	52	30.03	23.25	29.61	77	23.93	23.35	7	1.63	.....	16	.....	54.4
Angusta.....	81	36	68	51	83	52	30.03	23.25	29.61	77	23.93	23.35	7	0.93	.....	8	.....	.....
Peoria.....	83	39	68	51	83	52	30.03	23.25	29.61	77	23.93	23.35	7	0.93	.....	8	.....	.....
Elmira.....	83	41	60	51	78	48	30.03	23.25	29.61	77	23.93	23.35	7	0.93	.....	8	.....	.....
SOUTHERN DIVISION.																		
Clay.....	90	42	71	48	77	58	30.06	23.25	29.61	77	23.93	23.35	5	2.1	.....	4	.....	.....
Louisville.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
St. Marie.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
Jefferson.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
Mt. Vernon.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
Upper Alton.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
Madison.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
Centralia.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
Goleta.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
Pope.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....
Grayville.....	82	38	62	53	73	51	30.06	23.25	29.61	77	23.93	23.35	8	1.57	.....	4	.....	.....

REMARKS FOR MAY.

BELVIDERE.—G. B. Moss, Observer: Thunder storms on the 3d, 10th, 11th, 14th, 24th, 25th, 30th, and 31st. Slight hail on the 30th. Frost on the 1st, 2d, 5th, 6th, 7th, 8th and 16th. Mean temperature of thirteen Mays, $53^{\circ}.40$ —1870 being the warmest ($65^{\circ}.23$) and 1867 ($51^{\circ}.46$) the coldest. Mean temperature of spring of 1879, $46^{\circ}.95$. Mean of thirteen springs (March 1 to May 31), $45^{\circ}.33$ —1871 being the warmest ($53^{\circ}.09$) and 1867 the coldest ($41^{\circ}.14$). Mean precipitation of eleven Mays, 3.51 inches—1871 being the driest (1.21 inches) and 1873 the wettest (4.93 inches.) The month has been marked by sudden changes—a very warm, then a cold day. Very dry from April 10 to May 25.

DURAND.—C. A. Starr, Observer: Thunder storms on the 10th, 11th, 24th and 31st. Hail on the 11th. Frost on the 1st, 16th and 17th.

ELGIN.—E. L. Giddings, Observer: Thunder storms on the 25th, 26th and 30th. Hail on the 25th. Frost on the 1st, 6th and 7th. The month has been dry up to the 25th, at which time the most of the rain for the month fell—4.04 inches in twenty-four hours.

MARENGO.—J. W. James, Observer: Thunder storms on the 10th, 11th, 25th, 26th and 30th. Frost on the 1st and 7th. Solar halos on the 8th and 30th. Mean temperature of May $2^{\circ}.5$ higher than usual, and its rainfall 1.69 inches more than usual. Two-thirds of the rain fell on the 24th, ending a drouth unparalleled for the time of the year. Mean temperature of spring, $45^{\circ}.9$, or $2^{\circ}.5$ higher than usual, and its precipitation 8.42 inches, or 0.19 inches more than usual. The mean temperature of the two growing months, April and May, has been $1^{\circ}.6$ higher, and the rainfall 1.26 inches more than usual. The apparent discrepancy in the statement of drouth and rainfall is only owing to the very heavy rains of April 9 and 10 and May 24 and 31.

ELMIRA.—O. A. Blanchard, Observer: Thunder storm on the 25th. Frost on the 1st and 16th. Ice formed in pail of water 1-16 inch at 4:45 a. m. of the 6th. Solar halo on the 7th. Parhelia at 5:45 p. m. on the 9th, and 5:20 on the 19th. Diffuse lightning S. between 8:30 and 9 p. m. on the 20th, in the N. W. and S. between 7 and 8:30 p. m. on the 21st.

TEORIA.—Fred. Brendel, Observer: Thunder storms on the 3d, 13th, 19th and 25th.

AUGUSTA.—S. B. Mead, Observer: Thunder storms on the 3d, 13th, 19th and 29th. Rain also on the 30th and 31st. Light frost in low places on the 3d. Peach in bloom on the 1st. Pears on the 12th. Lunar halos on the 27th, 28th and 29th.

MT. STERLING.—W. W. Bower, Observer: Thunder storms on the 1st, 18th and 30th. Slight hail on the 1st. Light rain on the 14th; also, light shower, accompanied by sheet lightning on the 19th, 20th and 25th. Frost on the 6th. Lunar halos on the 24th and 27th.

LOUISVILLE.—D. H. Chase, Observer: Thunder storms on the 29th, 30th and 31st. Storms passed in sight on the 24th, 25th, 26th, 27th and 28th.

CENTRALIA.—J. L. Hallam, Observer: Thunder storms on the 5th, 23th and 31st. Slight frost on the 1st. Very light rain on the 4th, 14th and 30th. The most remarkable phenomenon is the absence of dew nearly the entire month, doubtless owing to the telluric and atmosphere temperature being nearly equal. N. E. winds have prevailed more than usual this month.

UPPER ALTON.—W. Leverett, Observer: Thunder storms on the 3d, 13th, 20th, 29th and 30th. Rainfall light. Distant lightning on the evening of the 19th and 31st.

ST. MARIE.—James Picquet, Observer: Thunder storms on the 10th, 13th, 20th, 24th, 26th, 28th, 30th and 31st. From the 24th to the end of the month, threatening clouds gathered every afternoon, to again disappoint after night; during that time we had five showers, with but 0.95 inches rain. Lunar halos on the 4th, 5th and 31st.

GOLCONDA.—J. E. Y. Hanna, Observer: Thunder on the 3d, 4th, 13th, 14th, 15th, 20th, 26th and 28th. Solar halos on the 14th and 22d. Lunar halo on the 27th.

GRAYVILLE.—J. L. Rhinehart, Observer: Very light showers on five days. Have had very little thunder and lightning this month.

SUMMARY of Meteorological Observations for the month of June, 1879, made to the Illinois Department of Agriculture, Springfield, July 1, 1879. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.						BAROMETER.						WIND.		RAIN AND SNOW.		No. of days on which cloudiness averaged 0.8 or more.		Ozone	Relative humidity
	Highest	Lowest	Mean	Range of	Highest daily mean	Lowest daily mean	Highest	Lowest	Mean	Range of	Highest daily mean	Lowest daily mean	Prevailing	Maximum velocity or force—miles per hour	Days on which rain or snow fell.	Total rainfall or melted snow	Depth of snow at close of month	No.	Deg.	Deg.
NORTHERN DIVISION.																				
<i>County. Postoffice.</i>																				
Winnebago.....Durand.....	86	43	66	44	72	51	...	...	...	...	...	...	SW.	3	6	3.82	...	8	...	...
McHenry.....Marengo.....	87	39	65	48	76	46	...	...	...	...	...	...	ne sw & s	4	10	4.81	...	8	...	...
Boone.....Belvidere.....	810	90	44	46	79	43	...	...	...	...	...	...	s. & sw.	5	10	4.14	...	2	...	...
Kane.....Elgin.....	777	84	45	39	77	46	23.54	23.65	23.15	.89	29.49	28.74	s. 10 SE.	3	7	3.20	...	10	...	...
Henry.....Geneseo.....	650	43	66	39	78	51	...	...	...	...	...	...	...	...	9	3.7	...	...	...	...
CENTRAL DIVISION.																				
Mercer.....Aledo.....	80	43	64	32	78	50	...	...	...	...	...	...	SE.	3	4	2.5	...	9	...	...
Stark.....Elmira.....	94	43	69	46	80	52	...	...	...	...	...	...	...	13	3	3.66	...	...	...	...
Peoria.....Peoria.....	460	92	50	73	42	84	29.69	29.15	29.62	.80	29.62	29.22	S.	6	12	3.23	...	3	64	...
Hancock.....Augusta.....	681	52	70	36	81	54	...	...	...	...	...	...	SE. & SW.	4	9	...	...	...	...	...
Brown.....Mt. Sterling..	525	54	75	36	82	56	...	...	...	...	...	...	SE.	4	9	1.8	...	7	...	...
SOUTHERN DIVISION.																				
Jasper.....St. Marie.....	91	43	72	43	80	57	...	...	...	...	...	...	SW. & SE.	5	10	3.50	...	8	...	...
Clay.....Louisville.....	500	48	71	44	79	58	...	...	...	...	...	...	SW.	...	3	1.2	...	10	...	...
Marion.....Centralla.....	94	56	70	38	83	53	...	...	...	...	...	...	SW. & SE.	...	9	4.17	...	11	...	...
White.....Grayville.....	93	50	74	43	88	50	...	...	...	...	...	...	W NW.	3	5	4	...	10	...	...
Pope.....Golconda.....	...	54	74	39	82	53	...	...	...	...	...	...	NW.	...	7	5.95	...	5	...	...
Alexander.....Cairo.....	366.5	53	75	28	84	61	30.26	29.64	30.03	.62	30.22	29.79	S.	6	15	8.7	...	8	...	69.2

REMARKS FOR JUNE.

DURAND.—C. A. Starr, Observer. Thunderstorms on the 9th, 10th and 26th. Slight frosts on the 18th and 19th, but little or no damage to crops. Aurora on the 17th.

MARENGO.—J. W. James, Observer. Thunderstorms on the 9th, 11th, 11th, 14th and 27th. The mean temperature of June, 1879, has been 1° 9 lower than usual. The mean of the first twenty days was the lowest recorded here for June. The amount of rain-fall 0.90 inch more than usual.

RELVIERE.—G. B. Moss, Observer. Thunderstorms on the 4th, 9th, 10th, 13th, 14th, 15th, 25th and 27th. Maximum daily mean and maximum mean of June 3° lower than May. Mean precipitation of eleven June, 5.17 inches; 1878 being the wettest (8.16 inches), and 1870 the driest, (0.54 inches)

ELGIN.—E. L. Giddings, Observer. Thunderstorm on the 9th. Aurora Borealis very bright from 9 p. m. to 2 a. m., 17th and 18th.

ALEDO.—Alex. Stephens, Observer. Thunderstorm on the 14th Thermometer highest (80°), June 22, at 2 p. m., and lowest (48°) on the 2d, at 7 a. m.

ELMIRA.—O. A. Blanchard, Observer. Thunderstorms on the 5th, 9th and 12th. Distant thunder on the 8th, between 6 and 6:30 a. m. Diffuse lightning in the southwest evening of the 8th; on the evening of the 10th in the south; at 3:45 a. m. of the 11th, in the southwest; at 9 p. m. of the 24th, southwest, and at 10 p. m. of the 26th, in the south. Parhelia at 5:25 a. m. on the 19th, and 4:40 a. m. on the 27th. Solar halo on the 20th.

PEORIA.—Fred. Brendel, Observer. Thunderstorms on the 6th, 10th and 11th.

AUGUSTA.—S. B. Mead, Observer. Thunderstorms on the 9th, 11th, 14th, 24th and 25th. Diffuse lightning on the evening of the 8th in a dark stratus cloud in the western horizon. Light rains on the 13th and 15th. Elder (Sambucus) in flower on the 23d, and coin tasseled out in the field on the 25th.

MT STERLING.—W. W. Bower, Observer. Thunderstorms on the 9th, 10th, 14th and 21th. Sheet lightning in the west at 9 p. m. on the 8th, and at 9 p. m. on the 9th, and 8 to 9 o'clock p. m. in the northwest on the 25th. Light rain on the 13th, 21st, 26th.

ST. MARIE.—James Picquet, Observer. Thunderstorms on the 9th, 11th, 14th and 15th. Eighth-tenths inch rain fell on the 14th in thirty minutes. Night of 16th very cool, with north breeze Towards day thermometer down to 38°. Lunar halos on the 19th and 21st.

LOUISVILLE.—D. H. Chase, Observer. Thunderstorms, on the 10th, 11th, 12th, 13th, 14th and 15th.

CENTRALIA.—J. L. Hallam, Observer. Thunderstorms on the 10th and 14th. Early part of the month noted for absence of dew. At 9 p. m. on the 26th, a well defined outline of rain-bow in the northeast.

GRAYVILLE.—J. L. Rhinehart, Observer. Thunderstorms on the 5th, 10th, 14th and 20th. Rain on the 5th and 10th. A heavy rain on the 5th, lasting through the day. Thermometer lowering from 72° to 50°. The heaviest storm of wind and rain known in this section for a number of years, occurred on the 10th, and lasted from 2 p. m. till 11 p. m. No material damage done.

GOLCONDA.—J. E. Y. Hanna, Observer. Thunderstorms on the 10th, 11th, 15th and 27th. Distant thunder on the 1st; rainbow at 5 a. m. on the 24th; lunar halo on the 26th.

CAIRO.—Wm. R. Smith, Observer. Thunderstorms on the 2d, 9th, 11th and 14th; lunar halo on the 24th.

SUMMARY of Meteorological Observations for the month of July, 1879, made to the Illinois Department of Agriculture, Springfield, August 1, 1879. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.						BAROMETER.						WIND.		RAIN AND SNOW.			Ozone.....		Relative humidity.....	
	Highest.....	Lowest.....	Mean.....	Range of.....	Highest daily mean.....	Lowest daily mean.....	Highest.....	Lowest.....	Mean.....	Range of.....	Highest daily mean.....	Lowest daily mean.....	Direct'n.	M's	Days on which rain fell.	Total rainfall or melted snow.....	Depth of snow at close of month.....	No.	Deg.	Deg.	
NORTHERN DIVISION.																					
County Post-Office.																					
Winnebago.	92	54	76	35	83	63	...	...	...	...	...	...	S. W.	3	10	6.88	...	5	...	...
Durand.	83	54	73	39	83	66	...	...	...	...	...	...	S. W. S.	4	7	5.39	...	1	...	...
McHenry.	97	61	74	36	83	67	...	...	...	...	...	...	SW & NW	4	8	7.01	...	...	...	...
Rhone.	85	51	74	30	85	66	...	...	...	...	...	...	S.	3	5	6.63	...	9	...	...
Kane.	91	61	74	30	85	66	23.40	23.05	29.15	.48	29.36	23.95									
CENTRAL DIVISION.																					
Mercer.	101	64	82	37	86	65	...	...	...	...	...	...	S. W.	2	4	4.9	...	9	...	...
Aledo.	98	62	81	34	84	68	23.81	23.23	29.59	.53	29.77	23.34									
Elmira.	100	62	81	38	91	75	30.20	29.09	29.97	.51	30.09	29.84									
Peoria.	101	58	82	43	91	72	...	...	...	...	...	...	S.	5	12	3.42	...	...	...	65.4
Springfield.	100	58	82	43	91	72	...	...	...	...	...	...	S. E.	4	7	1.52	...	...	...	54.3
Augusta.	98	65	79	33	88	72	...	...	...	...	...	...	S E & S W	4	6	3.15	...	25	...	...
Hawcock.	100	66	80	34	91	74	...	...	...	...	...	...	S. E.	5	6	2.3	...	5	...	...
Brown.	100	66	80	34	91	74	...	...	...	...	...	...			
SOUTHERN DIVISION.																					
St. Marie.	102	60	80	42	90	73	...	...	...	...	...	...	N.	7	9	1.87	...	3	...	...
Centralla.	99	64	79	35	89	71	...	...	...	...	...	...	W & S E	10	10	4.1	...	10	...	...
Grayville.	100	74	80	26	88	73	...	...	...	...	...	...	W & S W	5	7	6.0	...	10	...	...
White.	100	74	80	26	88	73	...	...	...	...	...	...	E. & N. W.	3	8	3.99	...	3	...	...
Pope.	98	70	80	23	88	74	...	...	...	...	...	...			
Golconda.	98	70	80	23	88	74	...	...	...	...	...	...			

REMARKS FOR JULY.

DURAND—C. A. Starr, Observer: Thunder storms on the 6th, 7th, 8th and 28th. Aurora on the 10th.

MARENGO—John W. James, Observer: Thunder storms on the 3d, 5th, 7th, 8th and 21st. Solar halos on the 3d and 17th. Most brilliant Parhelia south of sun, 6:45 p. m. Highest temperature, 2 p. m. on the 14th; lowest 5 a. m. 18th. Mean temperature of July, 1872, has been 82° 1 above the usual mean. July, 1866, 1868, 1870, 1874 and 1878, were warmer; the amount of rainfall has been 1.22 inches more than usual; only July, 1862, 1864 and 1876, were wetter, two-thirds of the rain fell in four days, 6th to 9th. A very clear month; although there were no entirely clear days, there were none entirely clouded. Average cloudiness, 39 per cent.; 21 days below 50 per cent. clouded.

BELVIDERE—G. B. Moss, Observer: Highest temperature, 97° on the 15th, and lowest 61° on the 29th. Mean temperature of 13 Julys, 72° .72; 1868 being the warmest, 78° .61, and 1867 the coolest, 69° .47. Rainfall one-half more than usual. Mean precipitation of 11 Julys, 4.61 inches; 1878 being the wettest, 7.52 inches, and 1874 the driest, 0.40 inches. Solar halo, very bright, from 6.15 to 6.30 p. m., on the 11th.

ELGIN—E. L. Giddings, Observer: Thunder storms on the 6th, 7th and 9th.

ALENO—Alex Stephens, Observer: Thunder storms on the 3d and 7th. Hail fell on the 7th. Highest temperature, 101°, on the 11th; lowest, 64°, on the 26th.

ELMIRA—O. A. Blanchard, Observer: Thunder storms on the 9th and 28th. Highest temperature, 96°, at 2 p. m. on the 2d, 3d, 14th and 15th; lowest, 62°, at 9 p. m. on the 29th.

PEORIA—Fred. Brendel, Observer: Thunder storms on the 7th, 8th, 9th, 25th and 28th.

SPRINGFIELD—T. B. Jennings, Observer (Signal service U. S. A.): Thunderstorms on the 6th, 12th and 28th. Highest temperature occurred on the 11th, and the lowest on the 18th; highest barometer on the 5th, and lowest on the 11th. Complete Corona appeared around the sun from 2 to 2:15 and at 2:23 p. m. on the 20th. Total movement of the wind for the month, 3,820 miles.

AUGUSTA—S. B. Mead, Observer: Thunder storms on the 3d, 21st, 25th and 28th. A light rain on the 7th, and a thunder shower passed west of this place. The rainfall for June, which was omitted in the report for that month, was 3.02 inches.

MT. STERLING—W. W. Bower, Observer: Thunder storms on the 3d, 7th, 21st and 25th. Solar halo on the 11th, at 9 a. m. On the 6th, part of a beautiful rainbow at 5:30 p. m., and sheet lightning in the east about 9 p. m.

ST. MARIE—James Picquet, Observer: Thunder storms on the 7th, 18th and 15th. Of the 1.87 inches rain that fell during the month, 1.6 inches fell between m. on the 12th and 3 a. m. on the 13th. Light sprinkles of rain on the 23d, 27th and 29th, aggregating 0.01 of an inch, while within 12 miles of this place heavy rain fell on those days.

CENTRALIA—J. L. Hallam, Observer: Thunder storms on the 3d, 8th, 12th, 16th, 17th and 29th. Hottest day on the 11th, temperature being 84° at 6 a. m., 99° at 2 p. m., and 84° at 9 p. m. Heat very oppressive from the 8th to the 16th.

GRAYVILLE—J. H. Rhinehart, Observer: Thunder storms on the 13th, 17th, 20th, 24th and 28th. Night of 23d, heavy rain of 10 hours duration; mercury fell during that time from 98° to 72°.

GOLOONDA—J. E. Y. Hanna, Observer. Thunder storms on the 4th, 9th and 20th. Strong wind from northwest at 3:30 p. m.: high wind from northwest at 11:30 a. m. on the 17th, and a fall of temperature of 18° in five minutes.

SUMMARY of Meteorological Observations for the month of August, 1879, made to the Illinois Department of Agriculture, Springfield, September 1, 1879. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.						BAROMETER.						WIND.		RAIN.		No. of days on which cloudi- ness averaged 0.8 or more..	Ozone.....	Relative humidity
	Highest.....	Lowest	Mean..	Range of.....	Highest daily mean....	Lowest daily mean	Inch.	Inch.	Inch.	Inch.	Direct'n.	M's	No.	Inch.	No.	Deg.				Deg.
NORTHERN DIVISION.																			
County. Postoffice.																			
Winnebago.....Durand.	90	42	70	48	79	56													
Rock.....Belvidere	95	50	70	45	81	59													
Kane.....Elgin.	777	90	51	70	36	57													
Cook.....Chicago.	657	91	52	73	39	61													62.3
Henry.....Geneeo.	650	89	49	68	40	70													
McHenry.....Marengo	925	90	45	69	45	79													
Mercer.....Aleto.	.....	90	54	72	36	59													
CENTRAL DIVISION.																			
Stark.....Elmira.	.....	51	70	41	79	57													
Peoria.....Peoria.	460	96	52	76	44	84													67.
Hancock.....Augusta	681	95	51	72	44	84													
Saugamon.....Springfield	640	94	54	75	40	85													61.1
Brown.....Mt. Sterling	525	96	59	75	37	87													
SOUTHERN DIVISION.																			
Marion.....Centralla.	.....	60	76	36	84	63													
Clay.....Louisville.	500	102	62	71	50	86													
Jasper.....St. Marie.	.....	100	55	75	45	86													
Pope.....Golconda.	.....	98	60	74	38	87													
White.....Grayville.	.....	93	53	75	46	87													
Alexander.....Cairo.	368.5	95	59	76	36	88													71.1

REMARKS FOR AUGUST.

DURAND.—C. A. Starr, Observer. Thunderstorms on the 3d and 12th. Frosts on the 17th and 18th, on low ground. Lunar halo on the 5th.

BELVIDERE.—G. B. Moss, Observer. Thunderstorms on the 2d, 6th and 10th; considerable display of meteors on the night of the 10th. Mean temperature of 13 Augusts $70^{\circ}.02$; mean of summer of 1879, $70^{\circ}.52$; of 13 summers, $70^{\circ}.14$ —1874 being the warmest, $72^{\circ}.78$, and 1875 the coldest, $66^{\circ}.78$. Rainfall summer of 1879, 13.85 inches. Mean rainfall of 11 summers, 12.10 inches—1874 being the driest, 5.05 inches, and 1869 the wettest, 20.03 inches. Mean rainfall of 11 Augusts, 2.32 inches—1875 being the driest, 1.17 inches, and 1869 the wettest, 4.91.

ELGIN.—E. L. Giddings, Observer. Thunderstorms on the 10th, 11th and 12th.

CHICAGO.—J. G. Lynch, U. S. A., Observer. Mean temperature of 5 Augusts, $71^{\circ}.8$ —1878 being the warmest and 1875 the coldest. Mean precipitation of 5 Augusts, 2.82 inches—1878 the wettest, 3.66 inches, and 1879 the driest, 0.45 inch. Distance traveled by the wind during the month, 4,762 miles. Greatest velocity of the wind, 20 miles.

MARENGO.—John W. James, Observer. Thunderstorms on the 3d, 11th, 12th and 13th. Solar halos on the 15th and 21th. Lunar halo on the 24th. Mean temperature of August, two-tenths degrees lower than usual, and its rainfall 1.79 inches less than usual. No rain after the 15th—only August 1864 and 1876 were drier. Mean temperature of the summer of 1879, $69^{\circ}.3$, or $0^{\circ}.2$ lower than usual. Total rainfall, 12.16 inches, one-half more than usual. In 18 years 8 summers have been cooler, 10 warmer, 11 drier, and 7 wetter.

ALEDO.—Alex. Stephens, Observer. Thunderstorms on the 4th, 5th, 6th and 28th.

ELMIRA.—O. A. Blanchard, Observer. Thunderstorms on the 4th and 5th. Solar halo on the 25th.

PEORIA.—Fred. Brendel, Observer. Thunderstorms on the 3d, 11th and 12th.

AUGUSTA.—S. B. Mead, Observer. Thunderstorms on the 5th, 6th, 19th and 28th. Nights of the 7th, 8th and 9th cool. Diffuse lightning in the northeast between 8 and 9 p. m. of the 11th.

SPRINGFIELD.—T. B. Jennings, Observer. Highest barometer on the 9th, lowest on the 24th. Highest temperature on the 3d and 4th, and lowest 9th and 17th. Greatest daily range of temperature, 24° , on the 1st and 25th; least daily range, 8° , on the 23d. Highest velocity of wind 21 miles, direction north. Total movement of wind, 5,099 miles. Solar halos on the 19th, 23d and 26th. Lunar halo on the 3d.

MT. STERLING.—Wm. W. Bower, Observer. Thunderstorms on the 5th, 6th, 13th, 19th, 22d, 23d and 28th. Sheet lightning northwest evenings of the 11th and 12th.

CENTRALIA.—J. L. Hallam, Observer. Thunderstorms on the 4th, 6th and 14th. Strong wind from the northeast on the 24th, and $\frac{3}{4}$ inch rainfall between 3 and 5 o'clock p. m.

ST. MARIE.—James Picquet, Observer. Thunderstorms on the 3d, 4th, 5th, 6th, 13th and 14th. Thermometer marked 50° at 6 a. m. on the 9th, and $49^{\circ}.50$ at 5.30 a. m. on the 18th. Lunar halos on the 4th and 22d.

GOLCONDA.—J. E. Y. Hanna, Observer. Thunderstorms on the 6th and 14th. Lightning north, evenings 4th and 5th. Heavy rains on the 23d and 24th.

GRAYVILLE.—J. L. Rhinehart, Observer. Heavy rains from 6 a. m. to 7 p. m. on the 7th. Weather very cool and fires very agreeable. Heavy rains on the 15th and 21st.

CAIRO.—Wm. R. Smith, Observer. Thunderstorms on the 6th, 7th and 13th. Lunar halo on the 31st.

SUMMARY of Meteorological Observations for the month of September, 1879, made to the Illinois Department of Agriculture, Springfield, October 1. Hours for taking Observations: 7 a. m., 2 p. m., 9. p. m.

Stations.	THERMOMETER.						BAROMETER.						WIND.		RAIN AND SNOW.			No. of days on which cloudiness averaged 0 8 or more ..
	Highest	Lowest.....	Mean	Range of	Highest daily mean.....	Lowest daily mean	Highest.....	Lowest.....	Mean.....	Range of.....	Highest daily mean.....	Lowest daily mean	Prevailing.....	Maximum velocity or force—miles per hour.	Days on which rain fell.	Total rainfall or melted snow	Depth of snow at close of month.....	
	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Direct'n.	M's	No.	Inch.	Inch.	No.
NORTHERN DIVISION.																		
<i>County Post-Office.</i>																		
Boone.....	89	32	60	57	75	40	39	29	53	29	39	29	S. W.	5	3	76	.....	0
McHenry.....	82	33	53	50	74	42	33	28	53	29	39	29	NW SW & S	5	8	1.20	.....	6
Marion.....	82	31	53	49	71	41	31	28	53	29	39	29	S.	5	7	1.03	.....	11
Kane.....	80	31	63	41	70	46	39	27	59	30	43	29	S.	4	12	1.18	.....	0
Chicago.....	83	39	61	5	75	43	38	34	61	.....	.....	.....	N. W.	6	8	1.13	.....	0
Cook.....	86	34	61	52	76	43	38	34	61	.....	.....	.....	S. W.	5	5	1.8	.....	.....
LaSalle.....	86	34	61	52	76	43	38	34	61	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whiteside.....	81	34	52	47	72	43	38	34	61	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henry.....	81	34	52	47	72	43	38	34	61	.....	.....	.....	.....	.....	.....	.....	.....	.....
CENTRAL DIVISION.																		
Peoria.....	86	39	61	47	75	49	30	21	38	29	727	633	R.	5	10	3.72	.....	3
Peoria.....	84	39	63	45	77	48	30	21	38	29	727	633	NW & SW	5	8	2.08	.....	12
Hancock.....	81	33	53	45	72	49	30	21	38	29	727	633	S.	5	9	2.08	.....	.....
Springfield.....	83	33	61	45	72	49	30	21	38	29	727	633	N. W.	5	3	2.08	.....	0
Springfield.....	84	33	61	45	72	49	30	21	38	29	727	633	N. W.	5	3	2.08	.....	7
Deatur.....	85	33	61	45	72	49	30	21	38	29	727	633	.....	.....	.....	.....	.....	.....
Brown.....	85	33	61	45	72	49	30	21	38	29	727	633	.....	.....	.....	.....	.....	.....
Mt. Sterling.....	85	33	61	45	72	49	30	21	38	29	727	633	.....	.....	.....	.....	.....	.....
SOUTHERN DIVISION.																		
Jasper.....	87	38	63	49	75	51	30	21	38	29	727	633	N.	6	6	1.35	.....	4
St. Marie.....	81	38	61	45	73	52	30	21	38	29	727	633	S. W.	6	6	1.35	.....	15
Clatsville.....	81	38	61	45	73	52	30	21	38	29	727	633	S. W.	6	6	1.35	.....	21
Upper Alton.....	83	38	63	41	77	51	30	21	38	29	727	633	S. W. & N. W.	6	7	1.35	.....	.....
Goldconda.....	87	38	63	41	77	51	30	21	38	29	727	633	N. E.	6	6	1.35	.....	4

REMARKS FOR SEPTEMBER.

DELVIERE.—G. B. Moss, Observer: Thunder storm on the 27th, accompanied with some hail. Frosts on the 6th, 9th, 10th, 19th, 20th and 25th. Mean temperature of 13 Septembers, 62° .15, 1878 being the warmest, 66° .59, and 1868 the coldest, 55° .78. Mean precipitation for 12 years, 3.15 inches—1868 the wettest, 7.16, and 1877 the driest, 0.47 inches, and 1879 the next driest.

MARENGO.—John W. James, Observer: Thunder storms on the 27th. Frosts, September 5, 8, 9, 19, 20, 24 and 25. Solar halos on the 5th and 11th. Mean temperature of September 53° .2 lower than usual—only 1866 and 1868 were colder, 1871 and 1875 were about the same. In 18 years only three times before has the maximum temperature for September failed to go higher than 82°, and but twice before has there been as great difference in the mean temperature of August and September—11° .3. Rain fall 2.95 inches lower than usual—'68, '71 and '77 only, in 18 years, were drier.

ELGIN.—E. L. Giddings, Observer. Hail on the 27th. Frosts September 5, 8, 9 and 10.

CHICAGO.—John G. Lynch, U. S. A., Observer. Greatest velocity of wind 23 miles, from southwest. Total movement of wind 4,895. Comparing temperature of 5 years, only that of '75 was lower, 61°. '76 the same, 61° .5; and '77, 66° .6; '78, 66° .8. Average precipitation for 5 years 2.664 inches—1875 being the wettest, 4.39 inches, and 1879 the driest.

LYNDON.—S. A. Maxwell, Observer: Thunderstorms on the 11th and 23d. Frost September 9, 14, 20, 21, 25 and 26. Meteors on the 10th. Less thunder storms and mere frosts than usual. No north or east wind recorded during the month.

PEORIA.—Fred. Brendel, Observer: Thunderstorms on the 1st, 11th, 23d and 27th.

AUGUSTA.—S. B. Mead, Observer: Thunderstorms on the 11th, 22d, 23rd and 27th. Light frosts on low ground September 14, 20, 24 and 25.

SPRINGFIELD.—T. B. Jennings, U. S. A., Observer: Total movement of wind 5,954 miles. Highest velocity 44 miles, from the north, on the 23d. Solar halos on the 15th and 28th. Lunar halo on the 27th. Frosts on the 8th, 9th, 14th and 25th. Greatest daily range of temperature 24° .5, least 13°.

DECATUR.—J. Stebbins King, Observer: Thunderstorm on the 23d. Light frosts September 5, 14, 18, 20 and 24.

Mt. STERLING.—Wm. W. Bower, Observer: Thunderstorms on the 11th, 22d, 23d and 27th. Light frosts 14th, 20th, 24th and 25th. Heavy frosts in places on the 25th. Lunar halo on the 20th at 8 p. m., very beautiful.

ST. MARIE.—James Picquet, Observer: Thunderstorm on the 7th. Frosts on the 24th and 25th. Lunar halo on the 28th. This month remarkable for the absence of any great disturbing storms or rains.

LOUISVILLE.—D. H. Chase, Observer: Lightning in the horizon on the 6th, and 12th. White frosts on the 25th and 26th.

UPPER ALTON.—W. Leverett, Observer: Thunderstorm on the 27th. Light frost on the 24th, and heavy on the 25th. A gale of wind on the 23d, from 4 to 7 p. m.

GOLCONDA.—J. E. Y. Hanna, Observer: Thunderstorms on the 1st, 7th and 10th—on the 7th accompanied by hail. Frost on the 25th.

REMARKS FOR OCTOBER.

DURAND.—C. A. Starr, Observer: Frosts Oct. 19, 20, 21, 24, 25, 27, 30 and 31. Lunar halo at 5 a. m. on the 6th.

BELVIDERE.—G. B. Moss, Observer: Heavy rain on the 2d; breaking severe drouth of six weeks. Frosts, 20, 21, 24, 25, 30 and 31. Beautiful meteor in northwest at 6 p. m. Mean temperature of twelve years 47° to 76° ; 1879 being 4° warmer than any other October, 53° to 72° . Mean of first half of month, 72° to 94° , which is about 12° above the mean of September, and about the mean of August last. Precipitation of October one-tenth of an inch above the mean of twelve years, 1877 being the wettest, 6.87 inches, and 1868 the driest, 0.65 inches.

ELGIN.—E. L. Giddings, Observer: Lunar halo at 1 a. m. on the 7th. Very warm from the 1st to 16th, being summer heat.

MARENGO.—John W. James, Observer. Frosts on the 20, 27, 29 and 31. Solar halo on the 27th. Lunar halos on the 3d and 7th. Polar bands on the 26th. The mean temperature of October has been 10° 2 higher than usual, and 5° 7 above the warmest October recorded here. On the 6th the mean temperature was 86° 5, the highest of any October day on record here. Mean temperature 1st to 16th, 70° 4; 17th to 31st, 42° 5, a difference of 27° 9. The first 16 days were 1° 1 warmer than an August average, and but 0° 9 below the usual average of July here. The rainfall has been 0.94 inch less than usual.

CHICAGO.—John G. Lynch, U. S. A., Observer: Greatest velocity of wind 20 miles from northwest. Total number of miles traveled this month, 4,625. Number of fair days, 18; clear, 6; cloudy, 7 days. Comparative temperature: 1875, 48° ; 1876, 49° 04; 1877, 55° ; 1878, 51° 7. The temperature for 1879 being 12° 5 above that of '75, and 8° 25 higher than the average of the four previous years. Comparative precipitation: 1875, 4.36 inches; 1876, 1.20; 1877, 6.51; and 1878, 5.17 inches; the rainfall for 1879 being 1.59 inches less than the average of the four previous years.

LYNDON.—S. A. Maxwell, Observer: Thunderstorm on the 3d. The first half of the month remarkable for high temperature. But twice during the past fifteen years has the temperature risen, in October, to 90° ; October 3, 1873, and October 10, 1878. On the 13th a very brilliant meteor occurred at 7:05 p. m. It appeared about one-fourth as large as the full moon; moved from southeast to northwest, in an almost horizontal direction, through the lower part of the constellation Cassiopeia. It lasted not more than five seconds, and showed very distinctly the colors, blue, red and yellow.

PFORIA.—Fred. Brendle, Observer: Thunderstorm on the 12th.

AUGUSTA.—S. B. Mead, Observer: Thunderstorm on the 12th. Frosts October 19, 20, 21, 24, 25, 30 and 31. Highest temperature, 86° , on the 9th.

SPRINGFIELD.—T. B. Jennings, U. S. A., Observer: Thunderstorm on the 12th. Frosts 20, 21, 24, 25, 26, 30 and 31. Solar halos on the 11th and 26th. Lunar halos on the 6th and 26th. Meteor on the 23d. Maximum velocity of wind 28 miles on the 23d, from northwest. Total movement of wind, 5,831 miles. Highest temperature on the 2d and lowest on the 31st.

DECATUR.—J. Stebbins King, Observer: Thunderstorm on the 12th. Frosts October 20, 21, 23, 24, 25, 26, 27, 30 and 31. Ice formed $\frac{1}{4}$ inch on the 31st.

MT. STERLING.—Wm. W. Bower, Observer: Thunderstorms on the 10th and 12th. Frosts October 20, 21, 23, 24. Lunar halos, at 9 p. m., on the 26th and 29th. Wild geese flying south at 8 p. m. on the 24th.

ST. MARIE.—James Picquet, Observer: Thunderstorms on the 10th and 11th. Lunar halos on the 2d and 4th. The peculiarity of the month is the high temperature of the first fifteen days—the highest being 92° and the lowest 65° ; mean, 76° 33. The last sixteen days were very cool—lowest, 25° ; mean, 51° 22.

UPPER ALTON.—W. Leverett, Observer: Thunderstorms on the 10th and 12th. Frosts light, October 18 and 19; heavy, 21, 25, 26, 30 and 31. Strong wind on the 21, $4\frac{1}{2}$ to $5\frac{1}{4}$ p. m. Fog, mornings of 13th, 22d and 27th. Wells and cisterns becoming exhausted in some localities in town and vicinity.

GOLCONDA.—J. E. Y. Hanna, Observer: Thunderstorms on the 3d and 11th. Frosts, 24th, 25th, 26th, 30th and 31st; first to kill vegetables on upland on the 24th. First ice formed on 31st. Lunar halo on the 29th. Brilliant lunar rainbow at 7 p. m. on the 2d.

SUMMARY of Meteorological Observations for the month of November, 1879, made to the Illinois Department of Agriculture, Springfield, December 1, 1879. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.						BAROMETER.						WIND.		RAIN AND SNOW.			No. of days on which cloudiness averaged 0.8 or more ..		Relative humidity.....	
	Highest.	Lowest.	Mean.	Range of	Highest daily mean ...	Lowest daily mean	Highest.	Lowest.	Mean.	Range of	Highest daily mean ...	Lowest daily mean	Direct'n.	M's	Days on which rain or snow fell.....	Total rainfall or melted snow.....	Depth of snow at close of month.....	No.	Deg.		
NORTHERN DIVISION.																					
County. Postoffice.																					
Winnebago.....Durand	798	4	36	66	63	13										4.18	2	10			
Boone.....Belvidere	810	3	36	70	64	13										5.89	2	8			
McHenry.....Marengo	925	6	35	64	62	12										5.30	2.5	11			
Kane.....Elgin	777	6	36	63	64	15										4.23					
Cook.....Chicago.	657	16	42	53	61	21										4.63			67		
Henry.....Geneseo	650	10	37	63	59	16										2.6					
CENTRAL DIVISION.																					
Stark.....Elmira.....	71	9	26	62	63	13										2.71		7	7.94		
Peoria.....Peoria.....	460	18	43	55	67	22										4.93		20	63		
Hancock.....Augusta	70	15	40	55	65	19										3.97	0				
Sangamon.....Springfield ..	610	20	45	56	69	25										5.12	0	7			
Macon.....Decatur	684	17	43	63	70	21										4.06	0	13			
Brown.....Mt. Sterling ..	525	16	37	62	67	23										4.50					
SOUTHERN DIVISION.																					
Clay.....Louisville.....	500	20	50	53	70	20										5.00	0	15			
Jasper.....St. Marie	75	15	47	60	72	25										4.17		12			
Madison.....Upper Alton ..	725	22	46	66	66	24										4.35		24			
White.....Grayville	72	20	46	52	70	25										4.10		10			
Pope.....Golconda		23	49	57	71	26										4.48		8			

REMARKS FOR NOVEMBER.

DURAND.—C. A. Starr, Observer: Thunder storm on the 11th. One inch snow fell on the 1st, and two and one-half inches fell on the 23th.

BEKVIDER.—G. R. Moss, Observer: Thunder storms on the 10th, 11th, 27th and 28th. Lunar halo on the 22d from 6 to 7 p. m. wind southwest. Mean temperature of 12 years 32°-42, 1870 the warmest, 36°-62, and 1873 the coldest, 24°-37. Mean temperature of Autumn 51°-59, being the warmest in 12 years, and 1869 the coldest, 43°-59. Mean of 12 autumns 47°-57. Precipitation of autumn 9.53 inches. Mean of 12 autumns 8.25 inches—that of 1868 the wettest, 11.17 inches, and 1872 the driest, 3.96 inches. Precipitation of November, 1879, 5.89 inches. Mean of 12 Novembers 2.44 inches—1878 the driest, 0.82 inches, 1879 the wettest. Not an entire day of Indian summer this fall.

MAKINGO.—J. W. James, Observer: Thunder storms on the 10th, 11th and 27th. Frosts on November 1, 5, 15, 16, 18, 25, 26, 28 and 30. Solar halo on the 8th, 11 a. m. to 4:15 p. m. Thermometer 70° at 2:15 p. m. Lunar halos 22d and 23d. Mean temperature November, 1879 1°-3 higher than usual, and its precipitation nearly three times the usual amount. Heavy thunder shower evening of the 10th; some damage by lightning. Mean temperature of Autumn 49°-8, or 2°-8 higher than usual. Total precipitation 7.88 inches, or .20 inches more than usual. In 18 years three autumns have been warmer, and nine wetter.

ELGIN.—E. L. Giddings, Observer: Lunar halo at 11 p. m. on the 23d. Two and one-fourth inches snow fell on the 2d, and one inch on the 23th.

CHICAGO.—John G. Lynch, U. S. A., Observer: Greatest velocity of wind 26 miles, and total movement for the month 5,254 miles. Mean temperature November, 1875, 87°-3; 1876, 39°-2; 1877, 40°; 1878, 43°-6, and November, 1879, 42°-01. Precipitation November, 1875, .74 inches; 1876, 3.25 inches; 1877, 6.08 inches; 1878, .83, and 1879, 4.93 inches.

ELMIRA.—O. A. Blanchard, Observer: Highest temperature 71°, at 2 p. m. on the 8th and 11th, and lowest 3°, on the 20th, at 9 p. m. Lunar halo at 4:30 p. m. on the 23d. Parhelia at 4:30 p. m. on the 29th. Diffuse lightning on the 10th, 11th and 12th. Distant thunder in the northwest, at 2 p. m., on the 26th.

PEORIA.—Fred. Brendel, Observer: Thunder storms on the 10th and 14th. Frosts November 1, 2, 3, 4, 19, 20, 21, 22, 23, 24, 25, 29 and 30.

AUGUSTA.—S. B. Mead, Observer: Thunder storms on the 10th and 27th. Frosts November 1, 2, 3, 4, 16, 19, 20, 21, 22, 23, 24, 25 and 29.

SPRINGFIELD.—T. B. Jennings, U. S. A., Observer: Highest temperature, 73°, on the 11th, and lowest, 20°, on the 3d and 20th. Solar halos on the 22d and 30th. Frosts November 1, 3, 16, 19, 25, 29 and 30. There were 10 clear and 21 fair days. Highest velocity of wind 38 miles, northwest. Total movement of wind 7,595 miles.

DECATUR.—J. Stebbins King, Observer: Thunder storms on the 12th, 14th and 26th. Frosts on November 1, 2, 3, 4, 16, 19, 20, 21, 22, 23, 24, 29 and 30. Lunar halos on the 24th and 28th.

MT. STERLING.—Wm. W. Bower, Observer: Thunder storms on the 11th, 14th, 26th and 27th. Frost on the 15th. A violent gale of wind accompanied by rain during the afternoon of the 8th, and a strong gale from north to northwest on the evening of the 19th.

ST. MARIE.—James Picquet, Observer: Thunder storms on the 13th, 14th and 28th. Hail on the 27th. Frosts November 1, 3, 4, 5, 16, 19, 20, 21, 22, 23, 24, 29 and 30. A heavy wind at day break on the 14th did considerable damage in this neighborhood by unroofing barns, demolishing hay and straw stacks, etc. The wind followed a southwest direction, and seemed confined to narrow lines, not more than half a mile wide.

UPPER ALTON.—W. Leverett, Observer: Thunder and lightning evening of the 4th and night of the 10th, and heavy thunder shower night of 27th. Frosts November 1, 2, 3, 4, 16, 18, 19, 20, 21, 22, 23, 24, 25, 29 and 30.

GRAYVILLE.—J. L. Rhinehart, Observer: First five days cold, thermometer continuing as low as 20°, then warmer till about the 20th, when the weather again became colder, and continued until close of month. On the 19th a heavy gale of wind from northwest, lasting nearly all night, but doing no material damage in this section.

GOLCONDA.—J. E. Y. Hanna, Observer: Thunder storms on the 14th and 17th. Frosts November 1 to 5, 16, 19, 20, 21, 22, 24, 29 and 30. Lunar halo on the 5th. Rainbow 7 a. m. on the 13th. Strong gale of wind from northwest at 2:30 p. m. on the 14th. Highest temperature 80°, on the 12th, and lowest 23°, on the 4th.

SUMMARY of Meteorological Observations for month of December, 1879, made to the Illinois Department of Agriculture, Springfield, January 1, 1880. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	Elevation above sea level	THERMOMETER.						BAROMETER.						WIND.		RAIN AND SNOW.		No. of days on which cloudiness averaged 0.8 or more...
		Highest		Lowest		Mean		Range of		Highest		Lowest		Prevaling		Total rainfall or melted snow		
		Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inch.	Inch.	Inch.	Inch.	Direc.	M's	Inch.	Inch.	
NORTHERN DIVISION.																		
County. Post Office.																		
Winnebago	768	55	-20	20	75	50	-10	.....	.....	.....	.....	.....	.....	W	4	1.05	8	15
Durand	460	53	-16	22	70	49	-8	.....	.....	.....	.....	.....	.....	NW & E	.....	2.12	4.75	14
Boone	810	58	-10	27	74	51	-7	.....	.....	.....	.....	.....	.....	NW & S	5	1.47	8	18
McHenry	925	55	-10	23	74	51	-3	.....	.....	.....	.....	.....	.....	Sto S W	4	1.59	1	10
Belvidere	777	54	-16	21	73	51	-3	.....	.....	.....	.....	.....	.....	W	4	2.47	.....	.....
McHenry	777	54	-10	23	74	51	-3	.....	.....	.....	.....	.....	.....	NW	6	0.94	0.25	.....
Cook	657	52	-2	30	64	54	+5	.....	.....	.....	.....	.....	.....	NW S E	2	2.20	.....	.....
Chicago	600	57	-14	24	70	50	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whiteside .....	.....	.....	-14	24	70	50	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Henry .....	.....	57	-14	23	71	50	-1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
CENTRAL DIVISION.																		
Stark .....	.....	57	-14	23	71	51	-5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peoria	460	52	-6	29	68	55	+4	.....	.....	.....	.....	.....	.....	W	4	1.32	0.75	.....
Hancock	631	54	-11	25	65	51	+0	.....	.....	.....	.....	.....	.....	NW & W	4	1.51	.....	10
Sangamon	640	52	-3	32	63	55	+7	.....	.....	.....	.....	.....	.....	NW	4	2.88	.....	21
Peoria	634	53	-6	30	69	55	+7	.....	.....	.....	.....	.....	.....	W	4	4.23	0	.....
Macoupin	634	53	-6	30	69	55	+7	.....	.....	.....	.....	.....	.....	SE	4	1.80	.....	12
Brown	525	60	-5	29	65	53	+5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15
SOUTHERN DIVISION.																		
Marion .....	.....	58	+2	35	56	51	+8	.....	.....	.....	.....	.....	.....	NW & NE	5	3.00	0.5	26
Clay	500	60	+4	39	56	49	+10	.....	.....	.....	.....	.....	.....	NS	5	3.20	.....	20
Louisville	725	60	+2	32	58	55	+7	.....	.....	.....	.....	.....	.....	NS	9	3.82	.....	29
Madison .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W	6	3.09	0.25	18
Jasper .....	.....	63	+5	33	58	59	+12	.....	.....	.....	.....	.....	.....	WNW	5	6.00	.....	15
St. Marie .....	.....	70	+6	38	54	55	+13	.....	.....	.....	.....	.....	.....	W	5	8.61	.....	13
Grayville .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Goconda .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pope .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

REMARKS FOR DECEMBER.

DURAND—C. A. Starr, Observer: Thunder storm on the 9th. Aurora on the 14th; single stream, northeast, reaching an altitude of 45°. Excellent sleighing at close of month.

BELVIDERE—G. B. Moss, Observer: Thunder storm on the 9th. Few meteors seen on the 51st. Average mean temperatures of 13 Decembers, 22.13°; 1877 the warmest, 39.22°, and 1876 the coldest, 11.27°. Average precipitation of 12 Decembers, 1.88 inches; 1874 the driest, 0.44 inches, and 1873 the wettest, 4.07 inches; total precipitation in 1879, 35.36 inches; average in 11 years, 34.09 inches. Total snowfall in 1879, 46.40 inches. On 39 days in 1879 the precipitation exceeded 0.01 inch. Direction of the wind in 1879 (the figures give the total number of times in each direction), N., 98; NE., 129; E., 55; SE., 69; S., 160; SW., 258; W., 82; NW., 188; still air, 58. Total number of observations, 1,095. Maximum temperature 1879, July 15th, 97°; minimum temperature, January 3d, 24°; total range, 121°. Maximum daily mean of 1879, July 15th, 83.18°; minimum daily mean, January 2d, 18.62°; a range of 101.80°. Highest temperature in December, 58°, at 9 p. m. on the 9th; and the lowest, 16°, at 7 a. m. on the 18th; being the lowest since February 27th, when it was 21°.

MARENGO—John W. James, Observer: Frosts every day, except 2d, 5th and 6th. Solar halo on the 7th, 2 p. m. Parhelia, 4:30 p. m. on the 10th, 8 a. m. and 3:45 p. m. on the 11th, and at 8:50 a. m. on the 25th. Mean temperature of December, 1.1° lower than usual. The range of the thermometer has been the longest I have recorded here for this month. Total precipitation, 0.51 inches less than usual. The mean temperature of the year 1879 has been 45.08°, or 0.4 above the usual mean. Highest temperature, 98°, on July 14th; lowest, 24°, on January 3d; range 117°. Prevailing winds, S. and NW. Total precipitation for the year, 32.82 inches, or 0.95 inch less than usual.

CHICAGO—John G. Lynch, U. S. A., Observer: Greatest velocity of wind, 25 miles per hour, southwest; total movement the month, 6,154 miles. Comparative temperature of 5 Decembers—1875, 27°; 1876, 19.9°; 1877, 44.13°; 1878, 24.18°; 1879, 30.4°. Precipitation of 5 Decembers—1875, 2.62 inches; 1876, 0.48 inch; 1877, 2.75 inches; 1878, 2.58 inches; 1879, 2.47 inches.

LYNDON—S. A. Maxwell, Observer: Thunder storm on the 9th. Rock river closed above the dam on the 12th, and below the dam on the 25th.

ELMIRA—O. A. Blanchard, Observer. Highest temperature, 57°, at 2 p. m. on the 5th; lowest temperature, 14°, 7 a. m. on the 25th. Diffuse lightning, 6 a. m. on the 7th. Parhelia, 7:55 a. m. on the 11th, 8 a. m. on the 13th, and near sunset; very bright on the 24th.

PEORIA—Fred. Brendel, Observer: Frosts on the 7th and 8th, and from the 10th to the 31st.

AUGUSTA—S. B. Mead, Observer: Frosts every day in the month. Lunar halos on the 20th, 26th and 29th.

SPRINGFIELD—T. B. Jennings, U. S. A., Observer: Highest temperature, 62°, on the 9th and 10th; lowest, 3°, on the 25th. Greatest daily range of temperature, 32.5°, on the 10th; least daily range, 5°, on the 31st. Highest velocity of wind, and direction, 27 miles, S. Total movement of wind, 7,048 miles. Lunar halos, on 2d, 26th and 27th. Frosts, December 7th, 12th, 13th, 26th and 27th.

DECATUR—J. Stebbins King, Observer: Thunder storms, 9th, 10th and 21st. Frosts every day, except 2d to 6th, 29th and 31st. Lunar halos on 1st and 27th.

MT. STERLING—Wm. W. Bower, Observer: Sheet lightning on the 9th. Hail on 21st and 30th. Lunar halos on 1st and 27th.

LOUISVILLE—D. H. Chase, Observer: Thunder storms on the 9th and 31st, and hail on the 14th.

UPPER ALTON—W. Leverett, Observer: Thunder storms: from 1:15 to 2 p. m. on the 9th, and at 3:15 on the 21st. Hail: at 1:15 and at 9 p. m. on the 9th. Lunar halos: small one on 1st, and a large one on the 27th. Last 10 or 12 days of the month, "all outdoors coated with ice."

ST. MARIE—James Picquet, Observer: Thunder storms on the 10th and 22d. Lunar halo on the 2d. The month has been remarkable for cloudiness, there being only 6 clear days. Roads splendid until the 29th.

GRAYVILLE—J. L. Rhinehart, Observer: Thunder storm on the 8th. Hail storm on the 24th. Light snows on the 14th and 25th.

GOLCONDA—J. E. Y. Hanna, Observer: Thunder storms on the 10th and 22d. A gale from the southwest at 4 a. m. on the 10th. December has been unusually wet, one rainfall measuring 3.39 inches.

SUMMARY

Of Meteorological Observations for the year 1879, made to the Illinois Department of Agriculture, Springfield. Hours for taking Observations: 7 a. m., 2 p. m., 9 p. m.

Stations.	THERMOMETER.					BAROMETER.					WIND.		RAIN AND SNOW.		Relative humidity.		
															No. of days on which cloudiness averaged 0.8 or more		
	Lowest	Highest	Range of	Mean	Lowest	Highest	Lowest	Mean	Range of	Highest	Prevailing	Maximum velocity of force -miles per hour	Days which rain or snow fell.	Total rainfall or melted snow	D-p.h. of snow at close of month	No.	
Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Miles.	No	Inch.	Inch.	Deg.	
NORTHERN DIVISION.																	
Jan ... 6 St's ns	43	-23	14	66	37	-18	29	55	23	83	29	28	0.72	29	53	28	91
Feb ... 5 "	45	-17	20	62	38	-4	29	65	23	83	29	26	0	87	29	62	83
Mar ... 6 "	71	+ 9	35	62	59	+15	29	8	28	85	29	25	0	43	29	68	83
Apr ... 5 "	81	+15	46	66	69	+2	29	51	28	46	29	20	1	05	29	48	28
May ... 5 "	90	+34	69	56	73	+45	29	62	28	87	29	23	0	75	29	58	28
June ... 5 "	97	+43	65	43	76	+45	29	54	28	65	29	15	0	89	29	49	28
July ... 4 "	93	+57	74	36	83	+65	29	41	27	65	29	15	0	48	29	86	28
Aug ... 7 "	91	+50	71	41	79	+57	29	78	29	82	29	56	0	46	29	74	29
Sept ... 6 "	83	+38	52	45	74	+42	29	97	29	26	29	65	0	71	29	95	29
Oct ... 7 "	87	+22	56	65	76	+28	30	19	29	20	29	69	1	00	30	20	29
Nov ... 7 "	70	+ 8	37	63	62	+14	30	07	29	1	29	64	0	95	29	99	29
Dec ... 7 "	57	-13	23	60	71	- 4	30	05	29	06	29	64	0	97	29	97	29
CENTRAL DIVISION.																	
Jan ... 4 St's ns	49	-23	18	73	41	-15	30	14	29	25	29	78	0	89	30	12	29
Feb ... 4 "	53	- 5	27	58	42	+ 3	30	12	29	20	29	74	0	92	30	09	29
Mar ... 4 "	76	+ 5	40	70	64	+17	30	20	29	28	29	73	0	92	30	08	29
Apr ... 4 "	84	+21	51	64	72	+29	29	87	29	03	29	64	0	84	29	85	29
May ... 4 "	91	+41	66	50	81	+52	30	03	29	25	29	64	0	77	29	98	29
June ... 5 "	99	+50	70	38	81	+58	29	66	29	15	29	62	0	54	29	92	29
July ... 6 "	99	+63	81	36	88	+71	30	00	29	48	29	78	0	52	29	93	29
Aug ... 5 "	93	+53	74	40	84	+62	30	00	29	53	29	79	0	47	29	96	29
Sept ... 5 "	85	+40	63	45	76	+49	30	05	29	64	29	75	0	41	30	02	29
Oct ... 5 "	99	+27	62	62	79	+33	30	49	29	57	30	07	0	92	30	44	29
Nov ... 5 "	75	+17	42	58	67	+23	30	53	29	44	29	94	1	09	30	82	29
Dec ... 6 "	59	- 7	26	67	53	+ 2	30	38	29	83	29	95	1	04	30	32	29
SOUTHERN DIVISION.																	
Jan ... 8 St's ns	61	-15	29	77	47	- 4	30	77	29	84	30	38	0	94	30	74	30
Feb ... 7 "	62	- 8	35	62	54	+10	30	70	29	63	30	27	1	04	30	56	29
Mar ... 8 "	82	+14	46	68	69	+21	32	12	29	95	30	26	2	17	30	54	29
Apr ... 7 "	86	+28	55	57	73	+33	30	50	29	64	30	20	1	26	30	50	29
May ... 7 "	94	+45	64	49	82	+56	34	39	29	97	30	24	0	42	30	37	30
June ... 6 "	99	+51	73	42	84	+57	30	26	29	64	30	03	0	62	30	22	29
July ... 4 "	100	+87	79	38	89	+73	...	...	...	...	...	...	...	...	...	...	...
Aug ... 6 "	98	+56	74	42	86	+63	30	21	29	45	30	00	0	76	30	17	29
Sept ... 4 "	86	+41	63	44	74	+53	30	38	29	83	30	17	0	55	30	38	29
Oct ... 4 "	91	+25	61	63	78	+38	30	50	29	95	30	24	0	55	38	49	30
Nov ... 5 "	73	+18	48	69	69	+26	30	48	29	75	30	18	0	73	30	44	29
Dec ... 6 "	63	+ 4	35	58	54	+ 8	30	54	29	39	30	19	1	15	30	54	29

Table showing the average yield in bushels, and value of the crops named for 1879.

Counties.	CORN.				WINTER WHEAT.					
	Acreage.	Average yield per acre in bu.	Crop in bushels.	Price per bu. Dec. 20.	Value of crop.	Acreage.	Yield per acre in bushels.	Yield in bushels.	Price per bushel August 1.	Value of crop.
Adams	105,582	43	4,540,026	30	\$1,362,008	71,284	26	1,852,864	\$.91	\$1,686,106
Alexander ..	14,113	85	493,955	35	172,884	7,724	16	123,524	90	111,226
Bond	38,340	37	1,418,580	30	425,574	28,357	20	567,140	97	493,411
Boone	32,582	36	1,172,982	35	410,533	437	20	8,740	95	8,303
Brown	32,480	39	1,266,720	30	380,016	22,451	21	471,471	87	410,180
Bureau	150,391	36	5,414,076	34	1,840,786		16			
Calhoun	13,820	42	580,440	30	174,132	15,657	19	297,483	88	261,785
Carroll	70,738	42	2,973,066	33	981,122	4,117	19	78,223	90	70,401
Cass	51,875	32	1,644,000	33	542,520	14,858	22	326,436	90	293,792
Champaign ..	212,905	37	7,877,455	32	2,520,795	12,969	20	259,380	90	233,442
Christian	153,672	42	6,454,224	31	2,000,809	46,895	27	1,268,165	87	1,101,564
Clark	47,711	34	1,624,214	31	503,506	29,651	18	533,358	91	485,356
Clay	37,735	31	1,171,645	25	292,911	18,170	6	100,020	90	98,118
Clinton	40,668	38	1,556,974	29	450,932	56,918	20	1,138,360	87	1,024,524
Coles	78,085	40	3,123,400	32	999,488	14,546	22	320,012	87	278,410
Cook	44,456	31	1,373,186	39	537,473		15			
Crawford	41,746	37	1,294,122	30	388,238	31,103	15	468,545	88	410,560
Cumberland ..	34,969	33	1,153,977	32	380,812	32,461	13	421,969	90	379,794
DeKalb	117,338	42	4,928,198	34	1,675,587	1,125	25	3,125	1 00	3,125
DeWitt	33,950	42	3,525,900	31	1,093,029	3,694	22	79,948	90	71,953
Douglas	66,637	40	2,645,480	32	852,954	6,936	19	131,784	89	117,288
DuPage	33,717	37	1,247,529	39	496,536	2,077	20	4,140	95	3,933
Edgar	104,594	40	4,183,780	33	1,380,641	24,126	27	651,402	93	605,004
Edwards	16,097	30	482,910	31	149,702	13,831	15	232,465	85	240,095
Effingham	39,068	37	1,473,816	30	443,645	32,652	13	424,478	90	382,028
Fayette	47,768	40	1,910,720	30	573,216	44,061	14	618,854	87	536,683
Ford	136,748	34	4,649,432	32	1,457,818	239	82	5,253	95	4,996
Franklin	32,345	33	1,067,385	31	330,589	31,681	12	383,532	85	328,002
Fulton	147,910	38	5,620,580	31	1,742,380	17,215	25	433,375	85	365,819
Gallatin	25,533	36	920,988	35	322,346	18,449	18	330,282	88	290,648
Greene	55,088	41	2,253,526	30	677,558	40,253	23	925,819	87	805,463
Grundy	9,894	37	368,078	34	124,466	92	25	2,300	1 00	2,300
Hamilton	26,396	40	1,055,640	30	318,752	25,202	12	302,424	88	266,138
Hancock	139,215	43	5,988,245	30	1,795,873	21,597	24	525,523	85	446,699
Hardin	12,169	24	292,056	30	87,617	5,042	15	75,690	83	62,773
Henderson	67,922	43	2,920,646	30	876,194	4,443	23	102,189	80	81,751
Henry	186,642	36	6,719,112	32	2,150,116	303	22	6,666	1 00	6,666
Iroquois	259,182	31	8,034,642	31	2,490,739	2,537	26	65,982	90	59,366
Jackson	22,918	33	870,808	35	304,783	49,588	16	793,408	85	674,397
Jasper	32,525	31	1,008,275	23	282,317	16,775	9	150,975	87	131,348
Jefferson	47,954	39	1,870,206	30	561,062	44,325	13	578,225	87	501,316
Jersey	30,286	40	1,211,440	30	383,432	69,725	23	1,603,675	87	1,395,197
JoDavies	62,181	43	2,684,688	28	625,713	3,182	22	70,004	90	63,004
Johnson	18,847	20	376,940	20	75,388	14,882	15	223,230	80	178,584
Kane	50,663	42	2,127,846	37	787,308	48	21	1,068	98	938
Kankakee	42,128	25	1,053,200	35	368,620	376	27	10,152	92	9,340
Kendall	71,760	30	2,152,800	35	753,480	68	20	1,380	92	1,251
Knox	156,699	42	6,581,858	30	1,974,407	2,480	25	62,000	83	51,480
Lake	24,394	40	975,760	33	370,789	81	25	2,025	1 02	2,065
LaSalle	258,354	33	9,042,390	37	3,345,684	464	24	11,136	96	10,691
Lawrence	35,335	27	954,045	31	295,754	28,065	712	336,780	91	306,470
Lee	103,809	37	3,840,333	34	1,305,917					
Livingston ..	283,146	40	11,325,840	33	3,737,527	490	22	10,780	88	9,486
Logan	177,121	36	6,376,356	32	2,040,434	7,726	32	247,232	91	224,081
Macon	122,665	36	4,415,940	32	1,413,101	8,519	19	181,861	93	150,580
Macoupin	106,549	50	5,327,450	30	1,598,235	96,172	23	2,211,956	88	1,946,521
Madison	33,326	50	4,166,300	30	1,249,890	112,787	22	2,480,874	90	2,232,736
Marion	49,727	27	1,342,629	25	335,657	25,932	23	596,436	90	536,792
Marshall	114,434	38	4,348,492	35	1,521,972					
Mason	67,599	25	1,689,975	38	642,191	8,056	20	161,120	88	141,736
Massac	12,239	28	318,214	32	101,823	16,914	13	219,832	86	189,099

Crop Statement—Continued.

Counties.	CORN.				WINTER WHEAT.					
	Acreage.	Av. yield per acre in bu.	Crop in bushels.	Price per bu. Dec. 20..	Value of crop.	Acreage.	Yield per acre in bushels.	Yield in bushels	Price per bushel August 1.....	Value of crop.
McDonough.	121,174 40		4,846,960 29	\$1,405,618	2,967	26	77,142	\$0 83		\$64,028
McHenry ...	61,810 36		2,225,160 36	801,058	2,164	24	51,936	97		50,378
McLean.....	285,475 44		12,560,900 31	3,893,879	3,411	28	95,508	91		86,912
Menard.....	63,286 36		2,278,296 32	720,055	13,121	24	314,904	90		283,414
Mercer.....	109,950 50		5,447,500 31	1,688,725	1,215	23	27,945	97		27,107
Monroe.....	16,828 42		708,566 33	233,167	51,875	23	1,193,125	91		1,085,744
Montgomery	128,424 51		6,421,200 30	1,926,360	55,473	26	1,442,293	90		1,298,068
Morgan.....	92,307 40		3,692,280 30	1,107,684	15,794	23	394,850	90		355,865
Moultrie...	72,408 33		2,889,464 32	764,628	8,610	23	198,030	89		176,246
Ogle.....	114,790 44		5,050,760 33	1,666,751	2,173	25	54,325	85		48,176
Peoria.....	97,315 40		3,893,400 34	1,323,756	3,482	25	87,050	93		80,957
Perry.....	13,816 33		455,928 32	143,897	39,874	12	472,488	90		425,239
Piatt.....	109,824 41		4,392,960 31	1,361,818	5,895	27	159,165	90		143,243
Pike.....	74,552 40		2,982,080 27	805,162	82,455	20	1,649,100	90		1,484,190
Pope.....	19,775 32		692,800 37	234,136	11,717	11	128,887	85		109,554
Pulaski.....	11,679 23		327,012 35	114,454	11,251	14	157,514	91		143,338
Putnam.....	30,963 43		1,331,409 34	452,679	807	24	7,268	85		6,263
Randolph...	25,139 41		1,030,699 32	329,824	90,847	22	1,993,634	85		1,698,839
Richland...	28,104 23		786,912 26	204,597	25,877	8	207,016	89		184,244
Rock Island	69,115 43		2,971,945 27	802,425	5,911	25	12,525	87		10,897
Saline.....	20,726 40		829,040 25	207,260	16,417	11	180,557	86		155,305
Sangamon...	159,138 36		5,723,968 30	1,718,690	26,800	24	642,200	83		566,016
Schuyler....	46,590 42		1,956,780 32	626,170	22,011	21	462,231	89		411,886
Scott.....	38,079 57		2,170,503 30	651,151	21,268	27	574,236	87		499,585
Shelby.....	100,904 35		3,511,641 30	1,059,492	34,723	24	838,352	90		750,017
Stark.....	68,145 45		3,066,525 32	981,283	164	26	4,264	92		3,922
St. Clair...	40,785 52		2,120,820 33	699,871	104,747	23	2,409,181	92		2,216,447
Stephenson...	72,718 42		3,054,156 34	1,034,413	4,929	24	118,296	90		106,466
Tazewell....	125,749 38		4,526,964 35	1,584,437	10,943	28	306,404	90		275,764
Union.....	18,223 35		637,805 37	235,988	25,688	20	513,760	83		428,421
Vermilion...	170,920 37		6,324,040 32	2,023,693	25,796	26	670,696	94		630,454
Wabash.....	17,299 45		5,778,455 23	217,967	22,482	15	337,290	87		293,390
Warren.....	116,648 45		5,249,160 29	1,522,256	813	26	21,138	86		18,179
Washington.	29,747 35		1,041,145 30	312,343	72,137	16	1,154,192	89		1,027,231
Wayne.....	42,863 34		1,457,342 25	384,336	29,316	12	351,672	87		305,955
White.....	34,723 36		1,394,028 31	472,149	45,734	17	777,478	87		676,405
Whiteside...	128,660 40		5,148,400 35	1,801,240	463	23	10,649	85		9,052
Will.....	138,217 30		4,146,510 37	1,534,209	323	25	8,075	81		8,075
Williamson...	23,059 32		737,838 30	221,866	28,557	12	342,681	82		281,001
Winnebago...	74,655 37		2,762,235 35	968,782	885	19	16,315	85		15,974
Woodford...	115,930 43		4,984,990 32	1,595,197	2,090	25	52,250	86		44,935
Total.....	7,918,881 38		305,913,377 32	\$97,483,052	2,137,063	av. 19%	42,041,252	av. 88%		\$37,266,757

† Estimated.

Crop Statement—Continued.

Counties.	SPRING WHEAT					OATS.				
	Average	Yield per acre in bushels	Yield in bushels	Price per bushel August 1	Value of crop..	Average	Yield per acre in bushels	Yield in bushels	Price per bushel August 1	Value of crop..
Adams	180	+ 12	2,160	+ \$78	\$1,685	20,908	80	627,240	\$25	\$156,810
Alexander						421	17	7,157	33	2,361
Bond						9,294	26	241,644	27	65,244
Boone	3,187	9	28,683	82	23,620	23,175	32	741,600	25	185,400
Brown	77	+ 12	924	75	693	3,593	26	93,418	21	19,618
Bureau	15,152	10	151,520	75	113,640	27,823	36	1,001,628	21	210,342
Calhoun						1,014	49	49,686	26	12,918
Carroll	12,200	10	122,000	82	100,040	27,416	42	1,151,472	22	253,323
Cass	54	+ 12	648	+ 78	505	8,553	28	239,484	23	55,083
Champaign	1,116	+ 12	13,392	+ 78	10,446	28,159	30	844,770	22	185,849
Christian	643	13	8,359	83	6,937	17,448	32	559,616	20	111,923
Clark	40	+ 12	480	+ 78	374	7,751	27	209,358	+20	41,871
Clay						6,040	20	120,800	24	28,992
Clinton						11,305	27	305,235	23	70,204
Coles	88	15	1,320	70	924	10,131	30	303,930	22	66,865
Cook	3,611	15	54,165	85	46,040	55,212	38	2,098,156	27	566,502
Crawford	40	+ 12	480	+ 78	374	3,737	39	108,373	21	22,758
Cumberland	19	+ 12	228	+ 78	176	6,138	32	280,416	16	41,667
DeKalb	8,790	8	52,740	90	47,466	43,889	60	2,603,340	20	520,668
DeWitt	3,120	12	37,440	82	30,701	11,866	27	374,382	22	82,364
Douglas	537	10	5,370	77	4,135	11,223	32	359,136	20	71,827
DuPage	8,554	16	55,264	85	46,974	29,532	42	1,242,684	23	285,858
Edgar	595	+ 12	7,140	+ 78	5,569	12,008	20	360,240	20	72,048
Edward	13	+ 12	156	+ 78	122	2,133	25	363,325	40	91,830
Effingham	6	+ 12	72	+ 78	5,616	13,246	30	397,380	20	79,476
Fayette	29	+ 12	348	+ 78	271	8,496	24	203,904	20	40,780
Ford	943	13	12,259	80	9,807	13,175	32	421,600	27	113,822
Franklin						8,687	19	165,053	22	36,312
Fulton	7,449	+ 12	90,588	80	72,470	19,820	30	579,600	25	144,900
Gallatin						1,199	20	23,980	20	4,796
Greene	36	+ 12	432	+ 78	356	2,456	25	61,475	32	19,672
Grundy	622	8	4,976	80	3,981	10,724	40	426,964	23	98,661
Hamilton	27	+ 12	324	50	162	3,440	37	127,260	22	28,002
Hancock	2,442	11	26,862	75	20,147	34,418	53	1,135,794	23	261,232
Hardin						225	14	3,150	20	630
Henderson	5,924	9	53,318	68	36,255	11,015	27	297,405	22	65,429
Henry	12,379	8	99,032	77	76,255	25,690	32	822,080	23	189,078
Iroquois	1,604	13	20,852	+ 78	16,265	29,390	35	1,028,650	15	154,298
Jackson	38	12	456	+ 78	356	3,519	35	123,165	30	36,950
Jasper	685	+ 12	8,220	+ 78	6,412	5,657	29	164,053	20	32,810
Jefferson	11	+ 12	132	+ 78	103	10,582	22	232,804	23	58,545
Jersey						1,113	32	35,616	22	7,835
Jo Daviess	4,016	11	44,176	86	37,991	81,457	40	1,258,280	25	314,570
Johnson	12	+ 12	144	+ 78	112	2,661	18	47,898	28	12,453
Kane	3,071	14	42,994	88	37,855	23,511	44	1,034,484	25	258,621
Kankakee	1,317	17	22,389	80	17,911	29,780	30	893,400	20	178,680
Kendall	1,733	13	22,529	80	18,023	14,602	36	525,672	21	110,361
Knox	12,192	12	146,304	77	112,654	37,343	40	1,493,720	22	328,618
Lake	2,685	13	34,905	95	33,160	19,853	45	893,385	27	241,213
LaSalle	11,852	12	142,224	82	116,624	50,507	33	1,066,731	25	416,688
Lawrence	916	+ 12	10,992	+ 78	8,574	8,419	+ 15	51,270	25	12,817
Lee	36,289	10	362,890	85	308,246	18,962	32	607,744	23	139,781
Livingston	7,926	20	158,520	72	114,134	43,017	25	1,075,425	20	215,085
Logan	1,918	10	19,180	80	15,344	13,523	28	378,644	22	83,302
Macon	665	6	3,990	80	3,192	17,677	32	565,694	22	124,446
Macoupin	90	+ 12	1,080	+ 78	842	17,318	23	398,314	23	91,612
Madison						14,564	40	582,560	31	180,593
Marion	2,077	13	27,001	90	24,300	6,287	45	232,915	18	50,925
Marshall	3,723	13	43,399	82	39,687	18,891	24	453,552	21	95,246
Mason	852	+ 12	10,224	+ 78	7,973	6,711	17	114,087	26	29,663
Massac						1,342	12	16,104	26	418,704
McDonough	10,523	14	147,406	70	103,184	15,853	32	507,296	22	111,605
McHenry	2,651	13	34,463	90	31,017	29,688	41	1,228,688	25	307,172
McLean	6,205	15	93,075	74	68,876	47,844	26	1,722,384	23	398,143
Menard	891	12	10,692	80	8,554	6,682	27	780,414	25	45,104
Mercer	12,921	8	108,368	72	74,425	15,963	34	542,742	21	113,975
Monroe						5,325	20	106,500	+25	26,625

Crop Statement—Continued.

Counties.	SPRING WHEAT.					OATS.				
	Acreage.....	Yield per acre in bushels.....	Yield in bushels	Price per bushel August 1.....	Value of crop..	Acreage.....	Yield per acre in bushels.....	Yield in bushels	Price per bushel August 1.....	Value of crop..
Montgomery	195	+ 12	2,340	+ \$0 78	\$1,825	17,138	28	479,808	22	\$105,558
Morgan.....	1,878	18	24,768	80	19,814	13,355	32	443,360	25	110,840
Moultrie.....	228	9	2,094	82	1,668	10,111	37	374,107	+20	74,321
Ogle.....	15,693	11	173,623	80	138,098	59,724	35	1,985,340	22	436,775
Peoria.....	3,749	10	37,490	82	30,742	28,092	31	864,852	31	212,304
Perry.....	.....	.....	.....	.....	.....	7,647	17	130,999	30	38,999
Piatt.....	347	12	4,164	80	3,331	13,926	42	584,892	20	116,978
Pike.....	66	+ 12	792	+ 78	618	5,045	40	203,400	20	40,680
Pope.....	97	+ 12	1,164	+ 78	908	4,182	14	58,548	23	13,466
Pulaski.....	.....	.....	.....	.....	.....	615	17	10,455	38	3,973
Putnam.....	3,122	12	37,464	72	26,974	4,878	27	131,706	21	27,658
Randolph.....	.....	.....	.....	.....	.....	9,782	22	214,764	31	66,577
Richland.....	.....	.....	.....	.....	.....	7,254	10	72,540	18	13,057
Rock Island	8,061	12	96,732	78	75,451	11,814	30	354,420	24	85,061
Saline.....	73	+ 12	876	+ 78	683	3,368	13	43,784	22	9,632
Sangamon.....	1,432	11	16,302	70	11,411	13,785	25	344,125	21	72,266
Schuyler.....	759	13	9,867	77	7,598	5,680	32	181,120	22	39,846
Scott.....	44	+ 12	528	+ 78	412	813	28	22,764	27	6,146
Shelby.....	332	+ 12	3,984	80	3,187	16,299	46	749,754	19	142,453
Stark.....	3,416	6	20,496	70	14,347	10,612	33	350,196	26	91,051
St. Clair.....	.....	.....	.....	.....	.....	8,602	31	266,662	28	74,665
Stephenson.....	12,476	10	124,760	75	93,570	34,394	30	1,031,820	28	238,910
Tazewell.....	3,434	+ 12	41,208	+ 78	32,142	26,708	30	801,240	25	200,310
Union.....	117	+ 12	1,404	+ 78	1,095	5,052	15	75,780	20	15,156
Vermilion.....	601	+ 12	7,212	+ 78	5,625	14,320	40	573,800	22	126,016
Wabash.....	.....	.....	.....	.....	.....	1,758	14	24,612	25	6,153
Warren.....	6,613	11	73,743	75	54,557	23,142	36	833,112	22	183,235
Washington.....	.....	.....	.....	.....	.....	18,272	24	438,528	24	105,247
Wayne.....	5	+ 12	60	+ 78	46	8,233	22	194,106	24	46,585
White.....	.....	.....	.....	.....	.....	2,667	21	56,007	22	12,322
Whiteside.....	16,239	8	129,912	75	97,434	28,432	41	1,167,762	23	268,535
Will.....	2,984	+ 12	35,808	+ 78	27,930	64,705	40	2,588,200	+23	195,236
Williamson.....	.....	.....	.....	.....	.....	4,691	20	97,820	33	32,230
Winnebago.....	4,669	11	51,359	83	42,628	42,779	35	1,497,265	26	389,239
Woodford.....	7,836	17	133,212	75	99,909	33,123	23	761,829	24	182,339
Totals.....	303,736	A v. 11	3,376,409	average 78 1-10	\$2,663,882	1,631,139	average 33½	54,664,569	A v. 22	\$12,059,162

+ Estimated.

Crop Statement—Continued.

Counties.	PASTURE.			HAY.			
	Acreage.	Value per acre.....	Total value.	Acreage.	Yield per acre in tons.	Price per ton August 1	Value of crop.
Adams	45,610	\$4 25	\$193,842	28,579	3/4	21,434	\$11 00
Alexander	408	6 00	2,436	417	1 1/4	825	10 25
Bond	21,249	2 15	45,685	15,787	3/4	11,840	5 50
Boone	45,277	3 50	158,470	24,594	1	24,594	5 00
Brown	19,334	1 50	29,001	8,042	3/4	6,031	8 85
Bureau	91,262	4 08	365,048	38,611	1	38,611	6 35
Calhoun	2,513	3 50	8,795	1,887	1	1,867	7 00
Carroll	55,100	4 00	220,400	24,466	1 1/2	36,699	3 00
Cass	18,634	3 00	55,902	3,469	1 1/2	52,809	11 00
Campalagn	78,059	3 50	273,206	35,206	1 1/2	18,880	4 00
Christian	52,139	2 25	117,312	25,174	3/4	17,090	8 00
Clark	29,568	2 50	73,920	17,090	1	10,952	6 00
Clay	12,432	1 75	21,756	14,603	3/4	6,264	4 60
Clinton	29,241	3 35	97,867	8,352	3/4	23,171	5 50
Coles	153,279	1 50	229,918	18,537	1 1/4	143,869	6 75
Cook	88,908	3 00	260,724	95,913	1 1/2	12,215	5 25
Crawford	17,727	2 35	41,658	12,215	1	15,352	5 00
Cumberland	24,574	2 00	49,148	15,352	1	119,908	5 00
DeKalb	113,069	2 65	299,633	68,516	1 1/4	20,944	7 50
Douglas	30,653	1 45	44,454	13,963	1 1/4	13,722	4 75
DuPage	51,564	3 00	154,692	18,297	3/4	60,120	6 00
Edgar	56,948	2 50	142,370	40,080	1 1/2	27,502	4 75
Edwards	35,147	3 00	255,441	27,502	1 1/2	4,126	5 00
Effingham	6,112	3 10	18,947	8,252	1	18,738	5 00
Fayette	14,380	2 50	35,950	18,636	3/4	8,894	4 50
Ford	23,498	2 65	62,270	13,941	1	15,421	5 00
Franklin	27,462	2 65	73,774	20,562	3/4	3,913	6 75
Fulton	3,416	2 35	79,773	5,218	1 1/4	50,716	9 00
Gallatin	36,156	2 35	84,967	33,911	1 1/2	3,223	8 00
Greene	1,894	3 00	5,592	2,149	1 1/2	13,910	12 00
Grundy	43,898	2 75	120,719	13,910	1 1/4	33,665	4 65
Hamilton	58,468	2 75	160,787	26,932	1 1/4	8,322	5 00
Hancock	3,501	4 00	14,004	5,548	1 1/2	16,622	9 00
Hardin	58,941	3 00	176,823	33,245	1 1/2	12,701	10 00
Henderson	4,305	4 00	17,220	12,701	1 1/4	10,720	6 00
Henry	32,558	3 85	125,348	8,576	1 1/4	37,662	6 00
Iroquois	89,543	5 00	447,715	37,662	1 1/4	65,541	4 00
Jackson	87,411	1 75	152,969	52,433	1 1/4	9,189	9 00
Jasper	4,620	3 10	14,322	6,122	1 1/4	21,162	6 00
Jefferson	10,954	1 65	18,074	16,930	1 1/4	5,806	7 50
Jersey	19,434	2 25	43,726	8,706	1 1/4	10,040	9 00
Jo Daviess	30,202	2 00	60,404	10,040	1	13,091	8 00
Johnson	50,881	3 75	190,729	10,473	1 1/4	4,905	9 00
Kane	3,676	3 10	11,396	3,924	1 1/4	75,333	6 25
Kankakee	84,176	3 30	277,781	50,222	1 1/2	60,403	7 25
Kendall	60,649	2 35	142,525	40,269	1 1/2	46,515	5 25
Knox	49,512	4 00	198,048	31,010	1 1/2	34,561	6 65
Lake	16,687	3 10	51,730	24,561	1 1/2	50,735	5 50
LaSalle	62,963	2 00	125,928	40,588	1 1/4	102,605	7 00
Lawrence	121,822	3 20	389,830	32,084	1 1/4	9,435	8 00
Lee	10,804	2 35	25,389	9,435	1 1/4	55,466	5 50
Livingston	58,728	4 00	234,912	35,644	1 1/2	39,192	5 30
Logan	54,258	3 50	189,903	39,192	1	11,047	10 00
Macon	56,091	3 20	179,491	14,730	3/4	18,809	9 00
Macoupin	48,405	3 50	169,417	18,809	1	22,245	8 00
Madison	77,505	2 85	220,889	29,661	3/4	12,474	12 50
Marion	27,499	3 65	100,371	16,533	1 1/4	20,386	6 00
Marshall	15,668	5 00	78,315	16,309	1 1/4	15,717	10 00
Mason	36,704	2 85	104,606	15,717	1 1/4	1,917	10 00
Massac	7,295	6 00	3,770	2,876	2	4,998	11 00
McDonough	1,896	3 10	5,878	2,499	3/4	16,080	8 65
McHenry	35,238	2 50	88,095	24,120	1 1/4	68,362	5 00
	88,355	1 20	106,026	45,755			

Crop Statement—Continued.

Counties.	PASTURE.			HAY.			
	Acreage.	Value per acre.....	Total Value.	Acreage.	Yield per acre in tons.	Price per ton August 1	Value of crop.
McLean.....	151,834	\$2 50	\$379,585	45,643	1	45,643	\$6 30
Menard.....	32,179	2 25	72,403	9,723	1	9,723	8 75
Mercer.....	75,199	3 50	263,196	22,861	4 1/2	29,814	4 15
Monroe.....	7,708	3 50	26,978	6,910	1	6,910	16 50
Montgomery.....	51,734	2 25	116,401	24,531	1	24,531	6 60
Morgan.....	92,777	2 50	231,942	20,968	3/4	15,726	13 00
Moultrie.....	20,513	1 85	37,949	8,639	1 1/2	10,798	4 65
Ogle.....	65,434	3 00	196,302	37,639	1 3/4	62,815	4 50
Peoria.....	31,056	3 85	119,566	26,057	3/4	19,542	9 60
Perry.....	4,665	2 25	10,496	3,184	3/4	2,388	7 00
Platt.....	42,878	3 00	128,634	15,503	1	15,503	7 00
Pike.....	33,773	3 10	104,696	18,110	1	18,110	8 00
Pope.....	4,077	6 75	27,520	2,638	1 1/2	3,297	8 65
Pulaski.....	652	13 10	2,021	1,874	1 1/2	2,811	10 00
Putnam.....	16,853	2 40	40,447	5,957	1 1/2	8,935	5 00
Randolph.....	9,977	4 00	39,908	5,985	1	5,985	8 00
Richland.....	13,098	4 25	55,666	9,966	3/4	7,497	5 65
Rock Island.....	58,065	3 00	174,195	21,367	1 1/2	32,050	5 00
Saline.....	1,054	1 50	1,581	3,906	1 1/2	4,882	7 50
Sangamon.....	106,112	3 65	387,309	26,530	3/4	19,898	8 00
Schuyler.....	21,434	3 25	69,660	13,083	1	13,083	7 50
Scott.....	15,406	3 50	53,921	5,571	3/4	4,178	12 65
Shelby.....	44,694	2 25	100,561	28,862	1	28,862	6 50
Stark.....	29,972	3 75	112,395	11,354	1	11,354	9 00
St. Clair.....	11,318	4 00	45,272	12,569	1	12,569	18 50
Stephenson.....	49,851	2 60	129,620	31,307	1 3/4	54,787	8 00
Tazewell.....	36,157	3 50	126,549	22,374	1 1/2	11,187	17 25
Union.....	6,379	13 10	19,775	4,842	1	4,842	11 65
Vermillion.....	101,162	2 35	237,731	38,731	1 1/2	48,413	4 50
Wabash.....	4,703	4 00	18,812	4,976	1	4,976	7 25
Warren.....	69,464	3 00	208,392	23,393	1 1/2	31,190	5 65
Washington.....	10,158	2 00	20,316	3,643	3/4	2,732	7 25
Wayne.....	22,986	2 25	51,718	18,277	1 1/2	27,415	4 50
White.....	5,816	2 75	15,994	7,099	1	7,099	7 25
Whiteside.....	79,771	3 50	279,198	36,852	2	73,704	3 00
Will.....	109,450	3 35	366,657	74,664	1 1/2	99,578	17 25
Williamson.....	11,700	6 25	73,125	3,486	1 1/2	4,357	9 30
Winnebago.....	61,024	3 10	189,174	22,880	1 1/2	34,291	4 50
Woodford.....	31,590	3 00	94,770	24,909	1 1/2	37,363	9 00
Tota's.....	4,193,884	\$2 95	\$12,319,620	2,161,760	average 1 1-5	2,578,736	Av. 6 37
							\$16,428,012

+ Estimated.

Crop Statement—Continued.

Counties.	RYE.					BARLEY.				
	Average	Yield per acre in bushels....	Yield in bushels	Price per bushel August 1.....	Value of crop..	Average	Yield per acre in bushels....	Yield in bushels	Price per bushel August 1....	Value of crop..
Adams.....	977	17	16,609	\$46	\$7,640	17	23	391	\$75	\$298
Alexander.....	15	+17	255	+46	117					
Bond.....										
Boone.....	2,816	13	36,608	45	16,474	222	23	5,106	45	2,298
Brown.....	263	14	3,632	40	1,473	25	+23	575	+48	276
Bureau.....	3,177	21	66,717	45	30,023	2,193	20	43,860	52	22,807
Calhoun.....	10	25	280	+46	115	2	+23	46	+48	22
Carroll.....	5,571	30	167,130	43	71,866	3,477	27	93,879	50	46,940
Cass.....	631	+17	10,727	45	4,827					
Champaign.....	7,201	22	158,422	40	63,369	14	+23	322	+48	155
Christian.....	4,272	20	85,440	40	34,176	121	+23	2,788	+48	1,336
Clark.....	325	18	5,850	56	3,277					
Clay.....	353	7	2,516	45	1,128					
Clinton.....	235	12	2,820	50	1,410	3	23	69	40	28
Coles.....	650	20	13,000	45	5,850	145	23	3,335	70	2,395
Cook.....	1,229	24	29,496	50	14,748	147	+23	3,381	65	2,198
Crawford.....	118	+17	2,006	+46	92,276	20	+23	460	+48	221
Cumberland.....	817	15	12,255	+46	5,637					
DeKalb.....	1,001	80	30,030	45	13,514	1,229	18	22,122	40	8,849
DeWitt.....	5,434	18	97,812	42	41,031	67	22	1,474	+48	708
Douglas.....	1,951	11	21,461	40	8,584	3	+23	69	+48	33
DuPage.....	1,474	13	19,162	50	9,531	110	+23	2,530	+48	1,214
Edgar.....	1,049	21	22,029	+46	101,333	14	+23	332	+48	155
Edwards.....	44	+17	748	80	5,598					
Effingham.....	698	+17	11,868	+46	5,458					
Fayette.....	1,004	10	10,040	40	4,016					
Ford.....	1,863	16	29,808	45	13,414	22	+23	506	+48	242
Franklin.....	51	17	897	+46	399	6	+23	138	+48	66
Fulton.....										
Gallatin.....	1	+17	17	+46	8					
Greene.....	16	+17	273	+46	125					
Grundy.....	1,295	17	21,015	45	9,907	75	25	1,875	62	1,162
Hamilton.....	62	18	1,116	50	558					
Hancock.....	4,930	18	88,740	50	44,370	6	+23	138	+48	66
Hardin.....										
Henderson.....	6,896	19	131,024	37	48,479	2	+23	46	+48	22
Henry.....	4,907	18	88,324	40	35,330	363	15	5,445	42	2,287
Iroquois.....	6,239	18	112,302	40	44,921	189	+23	4,347	+48	2,086
Jackson.....	84	+17	1,496	50	748	51	23	1,178	50	596
Jasper.....	325	+17	5,525	40	2,210					
Jefferson.....	126	16	2,016	55	1,109	11	+23	253	+48	12,144
Jersey.....	82	+17	1,394	+46	641					
Jo Daviess.....	2,885	14	40,390	45	18,178	316	20	6,320	+48	3,034
Johnson.....	16	11	176	60	106	3	+23	69	+48	33
Kane.....	1,623	24	89,072	47	18,894	237	26	6,162	38	2,342
Kankakee.....	7,767	21	163,107	40	65,243	20	+23	480	+48	221
Kendall.....	247	15	3,705	+46	1,704	6	18	1,108	+48	52
Knox.....	7,059	17	120,003	39	46,801	73	+23	1,679	+48	806
Lake.....	463	+17	7,871	55	4,329	73	23	1,594	60	1,076
LaSalle.....	3,420	15	51,300	45	23,085	656	23	15,088	40	6,095
Lawrence.....	120	+17	2,040	60	1,224	135	+23	3,105	+48	1,446
Lee.....										
Livingston.....	7,815	21	164,115	40	65,646	72	+23	1,656	+48	795
Logan.....	5,824	16	93,184	45	41,933	102	+23	2,848	+48	1,125
Macon.....	2,066	14	36,484	38	13,864	80	+23	1,840	+48	883
Macoupin.....	253	+17	4,536	35	1,535	22	+23	506	+48	242
Madison.....	81	30	930	55	512	16	+23	253	+48	121
Marion.....	1,507	+17	25,619	+46	11,785	16	+23	368	+48	177
Marshall.....	2,757	16	44,113	42	18,527	131	+23	3,013	+48	1,446
Mason.....										
Massac.....	20	+17	340	+46	156					
McDonough.....	5,480	19	104,120	40	41,649					
McHenry.....	1,776	14	24,864	47	11,686	518	18	9,324	60	5,594
McLean.....	18,769	13	247,842	41	101,615	59	27	1,593	50	796
Menard.....	865	15	12,975	40	5,190	18	30	390	+48	187
Merced.....	3,877	23	89,171	38	33,885	62	15	930	60	558
Monroe.....	55	+17	935	45	421	57	25	1,425	+48	684

Crop Statement—Continued.

Counties.	RYE.					BARLEY.				
	Average	Yield per acre in bushels....	Yield in bushels	Price per bushel August 1.....	Value of crop..	Average	Yield per acre in bushels....	Yield in bushels	Price per bushel August 1.....	Value of crop..
Montgomery.....	1,642	27	44,334	\$0 40	\$17,734	83	35	2,905	\$0 20	\$ 581
Morgan.....	1,600	18	28,800	47	13,536	25	25	117,852	40	47,141
Moultrie.....	5,415	19	121,895	42	51,192	5,124	25	900	48	432
Ogle.....	11,238	23	258,474	50	129,237	45	20	575	+ 48	276
Peoria.....	11	10	110	+ 46	51	25	+ 23	308	+ 48	177
Perry.....	3,469	26	90,194	42	37,881	16	+ 23	713	+ 48	342
Piatt.....	57	11	627	50	314	115	+ 23	2,645	+ 48	1,270
Pike.....	6	+ 17	102	+ 46	47	20	20	9,500	48	4,580
Pope.....	50	+ 17	850	+ 46	381	6	+ 23	158	+ 48	86
Pulaski.....	1,242	20	24,840	42	10,459	24	+ 23	552	+ 48	265
Putnam.....	59	+ 17	1,003	+ 46	461	5	+ 23	115	+ 48	55
Randolph.....	144	8	1,152	50	576	4	+ 23	92	+ 48	44
Richland.....	3,162	18	56,916	40	22,766	7	+ 23	115	+ 48	55
Rock Island.....	12	10	120	75	90	103	36	3,708	80	1,112
Saline.....	4,125	18	74,250	40	29,700	5,202	22	114,444	30	34,333
Sangamon.....	1,698	16	27,168	40	10,867	183	+ 23	3,174	+ 48	1,524
Schuyler.....	2,450	+ 17	7,650	+ 46	3,519	4	+ 23	92	+ 48	44
Scott.....	2,443	19	38,617	41	15,915	5	+ 23	115	+ 48	55
Shelby.....	1,611	20	32,220	48	15,466	7	+ 23	161	80	48
Stark.....	132	17	2,244	70	1,570	36	36	3,708	80	1,112
St. Clair.....	12,385	16	198,320	45	89,244	5,202	22	114,444	30	34,333
Stephenson.....	10,288	+ 17	174,556	+ 46	80,286	183	+ 23	3,174	+ 48	1,524
Tazewell.....	52	+ 17	884	+ 46	407	4	+ 23	92	+ 48	44
Union.....	3,927	20	65,940	+ 46	30,332	8	+ 23	184	+ 48	88
Vermilion.....	55	17	935	60	561	9	+ 23	207	+ 48	99
Wabash.....	5,067	20	101,340	39	39,523	1	+ 23	23	+ 48	11
Warren.....	80	22	1,760	60	1,056	29	+ 23	687	+ 48	320
Washington.....	183	+ 17	3,111	+ 46	1,431	1	+ 23	23	+ 48	11
Wayne.....	5	+ 17	85	+ 46	39	1	+ 23	23	+ 48	11
White.....	8,156	18	146,808	40	58,723	2,043	+ 23	46,989	50	23,495
Whiteside.....	10,770	+ 17	30,090	+ 46	13,841	62	+ 23	1,428	+ 48	684
Will.....	29	+ 17	493	+ 46	227	3	+ 23	69	+ 48	312
Williamson.....	10,469	14	1,466	48	674	550	28	15,400	50	7,700
Winnebago.....	5,635	20	112,700	40	45,080	175	16	2,800	60	1,680
Woodford.....										
Totals.....	235,073	A v. 18	4,238,824	A v. 47	\$1,991,404	25,494	A v. 22%	578,911	A v. 46	\$265,951

+ Estimated.

Crop Statement—Continued.

Counties.	*ORCHARDS.			IRISH POTATOES.				
	Acreage	Value of product per acre.....	Total value of product... ..	Acreage	Yield per acre in bushels.....	Crop in bushels.	Price per bushel December 20..	Value of crop...
Adams...	6,840	\$10 00	\$68,400	1,828	40	73,120	65	\$47,528
Alexander...	865	7 50	2,737	119	100	11,900	38	4,522
Bond...	2,426	10 00	24,260	.....	.....	.....	.....	.....
Boone...	1,586	18 00	28,548	402	97	38,994	35	13,648
Brown...	1,253	+ 4 80	6,014	243	45	10,935	70	7,654
Bureau...	4,763	5 00	23,815	1,866	75	102,450	50	51,225
Calhoun...	1,888	5 00	9,440	268	40	10,720	50	5,360
Carroll...	1,616	+ 8 25	13,579	799	200	159,800	45	71,910
Cass...	1,121	+ 3 65	4,092	255	43	10,965	75	8,224
Champaign...	4,585	6 50	29,802	2,295	91	208,845	45	93,980
Christian...	4,171	+ 8 25	34,411	708	45	31,860	55	17,523
Clark...	2,073	10 00	20,730	251	60	15,060	50	7,530
Clay...	1,907	10 00	19,070	203	47	9,541	55	5,247
Clinton...	2,139	10 00	21,390	899	67	60,233	50	30,316
Coles...	2,608	10 00	26,060	551	85	46,835	42	19,671
Cook...	4,320	17 00	73,440	13,454	45	605,433	48	290,606
Crawford...	2,175	12 00	26,100	315	85	26,775	55	14,726
Cumberland...	1,901	+ 8 50	16,158	250	46	11,500	48	5,520
D'Kalb...	3,906	7 50	29,295	1,578	100	157,800	45	71,010
DeWitt...	2,761	+ 4 50	13,253	293	87	25,491	42	10,706
Douglas...	2,041	20 00	40,820	203	75	15,225	50	7,612
DuPage...	2,820	15 00	42,300	2,869	100	286,900	50	143,450
Edgar...	3,395	+ 9 80	31,573	390	70	27,300	55	15,015
Edwards...	1,489	+ 5 50	8,189	57	100	5,700	43	2,451
Effingham...	1,780	15 00	26,700	525	90	47,250	55	25,987
Fayette...	2,754	+ 8 50	23,409	359	83	29,797	80	20,885
Ford...	1,976	11 00	21,736	417	84	35,028	50	17,514
Franklin...	1,706	8 00	13,648	200	100	20,000	48	9,600
Fulton...	5,198	5 50	28,589	.....	.....	.....	.....	.....
Gallatin...	1,302	3 50	4,557	84	114	9,576	40	3,830
Greene...	1,994	13 00	25,922	399	30	11,970	75	8,277
Grundy...	1,476	+ 5 75	8,487	473	105	49,665	60	29,799
Hamilton...	2,451	+ 6 80	16,667	175	92	16,100	50	8,050
Hancock...	6,145	12 00	73,740	1,227	60	73,620	55	40,491
Hardin...	692	+ 4 00	2,768	1,573	100	157,300	30	47,190
Henderson...	1,741	+ 2 00	3,482	131	37	4,847	60	2,908
Henry...	4,397	5 00	21,985	1,282	100	128,200	50	64,100
Iroquois...	4,871	17 01	73,065	1,250	80	100,000	55	55,000
Jackson...	3,695	15 00	55,425	318	110	34,990	40	13,992
Jasper...	1,357	7 50	10,177	259	60	15,540	45	6,993
Jefferson...	4,098	+ 8 75	35,832	233	112	26,095	50	13,048
Jersey...	2,553	+ 5 50	14,041	249	40	9,960	65	6,474
JoDavless...	2,057	9 00	18,513	1,725	90	155,250	32	49,680
Johnson...	1,888	+ 5 50	10,384	117	50	5,850	50	2,925
Kane...	2,509	5 00	12,545	1,161	115	133,515	45	60,082
Kankakee...	1,479	5 00	7,395	823	65	53,495	50	26,747
Kendall...	3,032	7 00	21,224	636	55	34,980	50	17,490
Knox...	4,408	6 00	26,448	1,381	95	131,195	54	70,845
Lake...	2,908	6 25	18,175	1,267	65	82,355	50	41,177
LaSalle...	6,824	3 30	22,519	2,737	60	164,220	45	73,899
Lawrence...	2,256	+ 5 50	12,408	296	133	39,368	35	13,779
Lee...	3,688	8 00	29,504	.....	.....	.....	.....	.....
Livingston...	5,061	15 00	75,915	1,306	81	105,786	60	63,472
Logan...	2,740	+ 6 00	16,440	883	65	57,720	60	34,632
Macon...	3,349	16 00	53,584	750	68	51,000	50	25,500
Macoupin...	5,879	15 00	85,185	507	70	35,490	75	26,617
Madison...	5,280	+ 6 00	31,680	3,931	60	235,860	65	153,309
Marion...	4,562	+ 4 50	20,529	210	162	34,020	45	15,309
Marshall...	2,478	12 50	30,975	460	62	28,520	55	15,686
Mason...	1,699	3 00	5,097	.....	.....	.....	.....	.....
Massac...	998	+ 2 75	2,744	329	40	13,160	30	3,948
McDonough...	2,561	10 00	25,310	500	20	10,000	80	8,000
McHenry...	3,657	12 00	43,884	1,666	112	186,592	40	74,637
McLean...	6,218	11 50	71,507	1,454	111	161,394	50	80,697
Menard...	1,438	3 75	5,392	303	62	18,786	70	13,150
Mercer...	3,174	11 50	36,501	755	63	47,565	55	26,161
Monroe...	1,226	13 00	15,938	943	160	150,880	50	75,440

Crop Statement—Continued.

Counties.	*ORCHARDS.			IRISH POTATOES.				
	Acreage.....	Value of product per acre.....	Total value of product.....	Acreage.....	Yield per acre in bushels.....	Crop in bushels.	Price per bushel per acre.....	Value of crop....
Montgomery	4,960	77 50	\$37,200	473	10	4,730	60	\$2,838
Morgan	3,600	14 25	15,300	.....	.....	.....	50	.....
Moultrie	1,882	78 40	15,809	271	40	10,840	50	5,420
Ogle	2,689	4 50	12,100	1,211	137	165,907	45	74,658
Peoria	2,715	6 50	17,647	1,582	90	142,880	50	71,190
Perry	1,130	9 00	10,170	151	87	13,137	45	5,911
Piatt	2,243	78 40	18,841	385	50	19,250	55	10,587
Pike	3,970	7 50	29,775	485	75	36,375	65	23,643
Pope	2,369	7 50	17,767	1,256	147	182,632	30	55,890
Pulaski	1,585	75 00	7,925	30	40	12,000	60	7,200
Putnam	1,164	3 25	3,763	217	37	8,029	60	4,817
Randolph	1,556	15 00	23,340	650	133	86,450	45	38,902
Richland	2,828	6 75	19,089	280	71	19,880	50	9,940
Rock Island	2,983	3 25	9,695	1,062	98	192,276	40	76,910
Saline	8 00	3 00	2,640	77	100	7,700	25	1,925
Sangamon	4,946	5 00	24,730	1,456	25	36,400	65	23,660
Schuyler	2,224	5 00	11,120	225	42	9,450	65	6,142
Scott	1,082	76 25	6,762	283	761	22,923	75	17,192
Shelby	1,937	78 50	16,464	937	100	93,700	60	56,220
Stark	1,311	10 00	13,310	308	92	28,336	50	14,168
St Clair	4,004	15 00	60,060	2,794	107	298,958	55	164,427
Stephenson	2,823	5 00	11,615	1,255	100	125,500	35	43,925
Tazewell	3,676	5 50	20,218	852	37	31,524	70	22,067
Union	4,110	76 40	23,374	276	75	20,700	40	8,280
Vermilion	3,065	15 00	45,975	766	50	38,300	50	19,150
Wabash	1,294	75 50	7,117	108	178	19,224	35	6,728
Warren	5,226	73 00	15,678	535	76	40,660	55	22,363
Washington	2,233	5 00	11,165	392	150	58,800	40	23,520
Wayne	3,619	14 00	50,666	448	131	58,688	50	29,344
White	1,716	2 00	3,432	252	90	22,680	50	11,340
Whiteside	2,874	6 50	18,681	1,396	100	139,600	50	69,800
Will	6,112	11 00	67,232	3,963	91	360,633	60	216,380
Williamson	1,820	6 50	11,830	103	122	12,566	40	5,026
Winnebago	2,133	15 00	31,995	1,127	85	95,795	40	38,318
Woodford	2,915	10 00	29,150	680	70	47,609	55	26,180
Totals	290,646	\$8 59	\$2,497,697	90,351	78	7,125,932	50	\$3,506,788

*Estimated.

*Apple, Peach, Pear and Vineyards.

Crop Statement—Continued.

Counties.	SORGHUM.				FLAX SEED.				
	Average	No. of gallons of syrup per acre	Total No. gallons produced	Price per gallon	Value of crop..	Acreage	Average yield per acre....	Crop in bushels.	Value crop.....
Adams.....	552	70	38,840	\$45	\$17,388				
Alexander.....	110	137	15,070	30	4,521				
Bond.....						2,640	7	18,487	\$1 25
Brown.....	283	110	31,130	40	12,452				\$23,109
Bureau.....	53	62	3,286	60	1,972				
Calhoun.....	15	1108	1,620	40	645				
Carroll.....	27	1108	2,916	50	1,458	26	8%	216	1 18
Cass.....	55	1108	5,940	45	2,673				255
Champaign.....	429	108	46,332	45	20,849	5,208	7%	38,080	90
Christian.....	236	100	23,600	40	9,440	1,148	8	9,184	1 25
Clark.....	352	62	21,824	33	7,202	28	6%	132	1 00
Clay.....	242	50	12,100	28	3,388	1,223	6	7,356	1 03
Clinton.....	96	90	8,640	35	3,024	20	7%	166	1 18
Coles.....	310	1108	33,480	35	11,718				196
Cook.....	4	1108	432	140	173	11,124	12	133,488	1 43
Crawford.....	4	125	500	40	200				190,888
Cumberland.....	401	58	23,258	30	6,871	53	7%	388	1 10
DeKalb.....	17	1108	1,836	40	734	8,700	7%	63,800	1 37
DeWitt.....	84	125	10,500	40	4,200				427
Douglas.....	128	150	19,200	30	5,760	22	10	220	1 10
DuPage.....	1	340	340	60	204	4,238	11	46,618	1 35
Edgar.....	163	1108	17,604	50	8,802				62,934
Edwards.....	89	1108	9,612	42	4,037				
Effingham.....	291	87	25,317	35	8,861				
Fayette.....	205	93	19,065	35	6,673				
Ford.....	118	80	9,280	45	4,176	17,624	9	155,616	1 20
Franklin.....	576	90	51,840	35	18,144				190,339
Fulton.....									
Gallatin.....	206	110	22,680	30	6,798				
Greene.....	59	50	2,950	50	1,475				
Grundy.....	19	1108	2,052	50	1,026	531	9	4,779	1 35
Hamilton.....	808	125	38,250	35	13,388	5	12	60	6,452
Hancock.....	516	86	44,376	40	17,750				80
Hardin.....									
Henderson.....	59	100	5,900	40	2,360				
Henry.....	54	190	10,260	50	5,130				
Iroquois.....	310	75	23,250	40	9,300	24,076	8	192,608	1 20
Jackson.....	105	110	11,550	35	4,042				231,130
Jasper.....	337	100	33,700	33	11,121	87	6%	580	1 00
Jefferson.....	211	210	44,310	40	17,724	200	8	1,600	1 00
Jersey.....									580
Jo Daviess.....	19	1108	2,052	50	1,026	1,732	8	13,856	1 22
Johnson.....	212	50	10,600	30	3,180				16,904
Kane.....						301	10	3,010	1 35
Kankakee.....	58	80	4,640	45	2,088	2,804	10	28,040	1 40
Kendall.....	2	150	450	50	225				39,256
Knox.....	206	130	26,780	50	13,390				
Lake.....	1	1108	1,150	40	43	7,296	10	72,980	1 40
LaSalle.....	92	105	9,680	45	4,347	6	7%	75	1 18
Lawrence.....	296	80	23,680	40	9,472				88
Lee.....									
Livingston.....	162	60	9,720	40	3,888	8,476	10	84,790	1 25
Logan.....	75	150	11,250	45	5,062				105,987
Macon.....	145	120	17,400	45	7,880				
Macoupin.....	129	1108	13,332	45	6,269				
Madison.....	112	88	9,856	45	4,435				
Marion.....	425	165	70,125	35	24,544	264	8	2,112	1 12
Marshall.....	60	100	6,000	40	2,400				2,365
Mason.....									
Massac.....	126	1108	13,608	25	3,402				
McDonough.....	254	160	40,640	30	12,192				
McHenry.....	17	133	2,261	45	1,017				
McLean.....	160	120	19,200	47	9,024	1,045	7%	8,688	1 25
Menard.....	22	80	1,760	40	704				10,854
Mercer.....	201	70	14,070	55	7,738				
Monroe.....	79	1108	8,532	60	5,119				

Crop Statement—Continued.

Counties.	SORGHUM.				FLAX SEED.					
	Average.....	No. of gallons of syrup per acre	Total No. gallons produced	Price per gallon	Value of crop ..	Acreage	Average yield per acre.....	Crop in bushels.	Average price per bushel....	Value crop
Montgomery....	98	+108	10,584	30	\$3,175					
Morgan.....										
Moultrie.....	341	120	40,920	45	18,414	213	12	2,556	\$1 10	\$2,812
Ogle.....	27	75	2,025	50	1,012	475	10	4,750	1 10	5,225
Peoria.....	64	+108	6,912	45	3,110					
Perry.....	74	+108	7,992	35	2,797					
Platt.....	119	45	5,355	40	2,142					
Pike.....	152	+108	16,416	45	7,387					
Pope.....	400	110	44,000	25	11,000					
Polaski.....	187	45	8,415	50	4,207					
Putnam.....	25	110	2,750	50	1,375					
Randolph.....	132	100	18,200	40	7,280					
Richland.....	225	52	11,700	25	2,925	166	5	830	1 00	830
Rock Island....	62	+108	6,696	50	3,348	25	+81½	208	+1 18	245
Saline.....	252	100	25,200	25	6,300					
Sangamon.....	56	158	8,848	50	4,424	20	10	200	+1 18	236
Schuyler.....	372	92	34,224	35	11,978					
Scott.....	48	+108	5,184	50	2,592					
Shelby.....	306	120	36,000	40	14,400	86	+81½	716	1 00	716
Stark.....	41	130	5,330	50	2,665					
St. Clair.....	23	+108	2,484	45	1,118					
Stephenson....	16	+108	1,728	40	691	2,304	7	16,128	1 25	20,160
Tazewell.....	55	+108	5,940	50	2,970					
Union.....	92	+108	9,936	40	3,974					
Vermilion.....	270	+108	29,160	40	11,664	5,210	10	52,100	1 20	62,520
Wabash.....	95	102	9,690	35	3,391	47	+81½	391	+1 18	461
Warren.....	128	100	12,800	40	5,120					
Washington....	110	200	22,000	35	7,700	15	+81½	125	+1 18	46,138
Wayne.....	540	146	78,840	30	23,652	72	7	504	1 45	731
White.....	244	88	16,592	35	5,807					
Whiteside.....	55	180	8,800	50	4,400					
Will.....	27	+108	2,916	40	1,166	2,495	8	19,960	1 25	24,960
Williamson....	294	93	27,842	35	9,570	3	+81½	25	+1 18	30
Winnebago.....	17	+108	1,836	40	734					
Woodford.....	38	+108	8,964	40	3,586					
Totals.....	14,949	102	1,524,705	38	\$579,257	110,016	9 bus	990,447	\$1 30	\$1,296,753

+ Estimated.

Table showing Acreage of Farm Crops in 1879 compared with 1878, and yield compared with an average.

Counties.	Broom corn.		Cotton.		Tobacco		Castor beans.		Sweet potato's		Buck-wheat.		Turnip and other root crops.		Beans.		Peas.	
	Acreage compared with 1878....	Average yield....	Acreage compared with 1878....	Average yield....	Acreage compared with 1878....	Average yield....	Acreage compared with 1878....	Average yield....	Acreage compared with 1878....	Average yield....	Acreage compared with 1878....	Average yield....	Acreage compared with 1878....	Average yield....	Acreage compared with 1878....	Average yield....	Acreage compared with 1878....	Average yield....
Adams.....	105	100							103	100	83	75	100	98	100	100	100	100
Alexander....		95		90	75	85	100		85	100			100	100	100	100	100	100
Bond.....	100	100							95	95			100	100	100	100	100	100
Boone.....	90	100								100	85	94	80	100	95	100	90	80
Brown.....									90	70				50	100	75	100	
Bureau.....										100	100	100	100	100	100	100		
Calhoun.....					100					95			100	100	100	100		
Carroll.....									100	100	100	100	100	100	100	100	100	
Cass.....									80	95				100	75	100		
Champaign....	75	100							100	100	100	100	100	100	100	100		
Christain....	100	100			100	80	80		94	100	50	100	100	100	100	90		
Clark.....	100	90			65	100			93	80	100	100	90	75	100	100	100	100
Clay.....		95			75	83			100	70	100	100	100	100	95	100	75	100
Clinton.....		110			108		100		100	100	110	100	100	102	87	100		
Coles.....	100	110			60	100			95	85	95	90	100	90	100	95	100	
Cook.....									100	80	83		100	93	100			
Crawford....	100	92			100	96			93	81	87	90	90	90	105	97		
Cumberland..		100			110	100			90	100	90	87	100	90	100	100		
DeKalb.....	100	100								100	82	100	100	100	100	100		
DeWitt.....		100							95	100			100	100	100			
Douglas.....	80	105			100				100	100	87	100	100	100	100	100	100	100
DuPage.....										100	90		100	100	100			
Edgar.....					100				95	94	95	100		100	100			
Edwards.....									95				100	100	100			
Effingham....	100	100			110	100			103	95	100	100	100	25	87	101		
Fayette.....					75				55	100	75	80	100	75	100	94	100	75
Ford.....	75	100							90	110	100		100	100	90		90	
Franklin....		100			100	124	102		100	100			107	112	100	100		
Fulton.....					100	50			75	87	100	52	100	100		75		
Gallatin....	100								50	100			100	100				
Green.....					75				83	90	100	100	100	87	100	80	100	
Grundy.....									100	92	100		100	90	100	100	90	100
Hamilton....					80	75	80		75	90	75	75	110	100	100			
Hancock....	100	92			100	100			100	98	88	85	92	85	100	90	100	95
Hardin.....									75	92	90	100			100		100	
Henderson....									100	100	87	75	100	78				
Henry.....	90	105					100		85	100	110	100	100	105	85	110		100
Iroquois....		90					100		100	97	100	100	100	100	100	105		
Jackson.....					100		100		83	100	100	100	100	125	100		100	
Jasper.....	75	100			50	100			80	100	77	87	100	87	105	100	100	100
Jefferson....	100	112			80	100	100		100	83	100	100	100	100	96	100	95	100
Jersey.....					95				98	68	100	80	120	100	100	100	100	
JoDavless..					100	110				100	62	100	100	97	100	100	100	100
Johnson....					65	92			160	100				100		112		
Kane.....	95	100								97	100		83	92	110	100	100	100
Kankakee....		100								100	85	90	80	76	105	100	100	100
Kendall.....										92	87	80	75	60	100	100	100	
Knox.....	105	100							100	97	80	100	100	100	100	100		
Lake.....	105	100								100			105	100	94	100		
LaSalle....		95							75	100	65	100	100	100	100	100		
Lawrence....	100	55			25		25		83	75	90	60	100	70	100	75	100	
Lee.....									100	100	90	97	100	100				
Livingston..									100				100		110			
Logan.....									90	88	105	100	100	100	100	90		
Macon.....									87	75								
Macoupin....									100	60	100	75	50	50	100	100		
Madison....		100							100	90	100	100		90				
Marion.....	90	125			100	100	50	125	130	125	75	90	100	125	100		100	
Marshall....									100	100	90	95	100	100				
Mason.....									87	72			100					
Massac.....		100				100			92	103			103	100	100	80		90
McDonough..		100							100	76	87	65	50	80		25		
McHenry....	100	100							100	100	75	100	87	87	97	100	100	100

Acreage of Farm Crops, etc.—Continued.

Counties.	Broom corn.	Cotton.	Tobacco	Castor beans.	Sweet potato's	Buck- wheat.	Turnip and other root crops.	Beans.	Peas.
	Average compar- ed with 1878....	Average yield....	Average compar- ed with 1878....	Average yield....	Average compar- ed with 1878....	Average yield....	Average compar- ed with 1878....	Average yield....	Average compar- ed with 1878....
McLean.....	102	100	100	100	100	100	100	100	100
Menard.....	103	75	100	100	88	100	100	100	100
Mercer.....	100	100	100	100	100	100	100	100	100
Monroe.....	85	100	100	100	80	100	100	100	100
Montgomery..	100	100	100	100	100	100	100	100	100
Morgan.....	100	100	100	100	100	100	100	100	100
Moultrie.....	100	95	100	100	100	100	100	100	100
Ogle.....	100	100	100	100	100	100	100	100	100
Peoria.....	100	100	100	100	100	100	100	100	100
Perry.....	101	100	100	100	100	100	100	100	100
Piatt.....	88	100	100	100	100	100	100	100	100
Pike.....	100	100	100	100	100	100	100	100	100
Pope.....	80	100	100	100	100	100	100	100	100
Pulaski.....	100	100	100	100	100	100	100	100	100
Putnam.....	100	100	100	100	100	100	100	100	100
Randolph.....	75	100	100	100	100	100	100	100	100
Richland.....	100	100	100	100	100	100	100	100	100
Rock Island..	100	100	100	100	100	100	100	100	100
Saline.....	100	100	100	100	100	100	100	100	100
Sangamon.....	100	100	100	100	100	100	100	100	100
Schuyler.....	80	80	100	100	100	100	100	100	100
Scott.....	100	100	100	100	100	100	100	100	100
Shelby.....	50	100	100	100	100	100	100	100	100
Stark.....	100	95	100	100	100	100	100	100	100
St. Clair.....	75	100	100	100	100	100	100	100	100
Stephenson...	75	100	100	100	100	100	100	100	100
Tazewell.....	100	100	100	100	100	100	100	100	100
Union.....	100	100	100	100	100	100	100	100	100
Vermilion.....	100	100	100	100	100	100	100	100	100
Wabash.....	100	100	100	100	100	100	100	100	100
Warren.....	100	100	100	100	100	100	100	100	100
Washington...	100	100	100	100	100	100	100	100	100
Wayne.....	100	120	100	100	100	100	100	100	100
White.....	100	100	100	100	100	100	100	100	100
Whiteside.....	100	100	100	100	100	100	100	100	100
Will.....	100	100	100	100	100	100	100	100	100
Williamson...	105	100	100	100	100	100	100	100	100
Winnebago...	100	100	100	100	100	100	100	100	100
Woodford.....	100	100	100	100	100	100	100	100	100

Acres in Cultivation in 1879.

Counties.	Corn.....	Meadows.	Winter wheat.	Spring wheat.	Oats.....	Pasture ..	Orchards.	Winter rye.	Barley....	Irish potatoes	Sorghum.	Flax seed.
Adams	105,582	28,579	71,284	180	20,908	45,610	6,840	977	17	1,893	552	.....
Alexander	14,113	417	28,857	.....	421	21,249	2,438	15	.....	1,119	110	.....
Bond	38,840	18,787	28,857	.....	9,294	45,277	2,438	.....	.....	.....	.....	2,640
Bond	32,582	24,694	28,857	8,187	23,175	45,277	1,558	2,516	222	402	253	.....
Bond	32,582	8,042	22,451	77	3,593	10,334	1,253	293	25	243	.....	.....
Brown	180,391	38,611	22,451	15,152	27,823	91,262	4,703	3,477	2,138	1,398	15	.....
Calhoun	13,820	1,887	15,657	.....	1,014	55,100	1,888	10	3,477	799	27	26
Carroll	70,788	24,466	4,117	12,200	27,416	55,100	1,121	5,671	.....	205	55	.....
Cass	51,375	3,469	14,838	54	8,553	18,634	1,121	7,201	14	2,295	429	5,208
Champaign	212,905	25,205	11,116	1,116	28,159	78,059	4,585	4,272	121	2,203	236	1,148
Christian	153,672	25,174	46,895	643	17,448	29,588	2,073	325	.....	251	352	28
Clark	47,771	17,080	29,631	40	7,754	7,754	2,073	4,272	.....	203	242	1,226
Clay	37,735	14,603	18,170	.....	6,040	12,432	1,907	358	.....	96	96	20
Coles	40,668	8,352	59,918	.....	11,305	29,241	2,606	935	8	899	310	.....
Cook	78,085	18,537	14,546	88	10,131	153,279	2,606	650	145	551	4	11,124
Crawford	41,746	12,215	32,461	3,611	55,212	17,727	2,175	1,229	147	13,454	4	.....
Cumberland	34,969	15,352	31,103	40	8,737	17,727	2,175	118	20	515	4	.....
DeKalb	117,338	65,616	32,461	19	43,389	24,574	1,901	817	1,229	250	401	53
DeWitt	83,950	13,963	3,634	8,700	13,896	30,658	2,906	1,001	.....	1,578	17	8,700
Douglas	66,637	18,297	6,936	8,120	11,223	51,594	2,041	5,434	67	293	84	22
DuPage	33,717	40,080	207	3,454	22,592	56,948	2,820	1,951	110	208	128	4,238
Edgar	104,594	27,602	24,126	595	12,008	86,147	3,895	1,474	.....	2,868	163	.....
Edwards	8,252	18,831	13	13	6,112	6,112	1,489	44	.....	57	89	.....
Effingham	39,968	32,652	67	29	13,216	14,860	1,780	698	.....	523	291	.....
Fayette	13,341	44,061	44,061	943	8,496	23,498	2,754	1,004	.....	359	205	.....
Ford	136,718	20,562	31,961	7,649	13,175	8,416	1,976	1,863	22	417	116	17,624
Franklin	32,345	83,811	17,215	.....	8,697	8,416	1,708	51	6	200	576	.....
Fulton	147,910	2,149	18,849	38	19,320	1,864	6,198	1	.....	84	206	.....
Greene	55,086	13,310	40,253	623	1,194	43,698	1,984	10	.....	909	19	.....
Hamilton	28,896	9,894	25,202	271	10,724	58,408	1,470	1,295	75	473	19	531
Hancock	189,215	83,245	21,897	2,142	3,440	68,408	2,451	4,930	.....	1,175	900	5
Hardin	12,169	12,701	5,042	.....	84,233	56,905	6,692	.....	.....	1,573	516	.....
Henderson	67,823	8,576	4,303	5,694	1,023	32,558	1,744	6,896	2	131	59	.....
Henry	37,662	2,497	4,303	12,379	25,390	87,543	4,397	4,907	863	1,282	54	.....
Iroquois	239,183	62,453	2,497	1,664	25,390	87,411	4,871	6,239	189	1,250	310	24,076
Jackson	32,891	6,122	49,658	1	3,519	16,954	3,605	83	51	318	105	.....
Jasper	27,891	16,773	44,653	683	5,657	16,954	1,367	325	.....	259	357	87
Jefferson	47,964	8,709	44,653	11	10,532	10,434	4,038	126	11	238	211	200

Acres in Cultivation—Continued.

Counties.	Corn.....	Meadows.	Winter wheat.	Spring wheat.	Oats.	Pasture ..	Orchards.	Winter rye.	Barley ...	Irish potatoes.	Sorghum.	Flax seed.
Wabash.....	17,209	4,976	22,482	.....	1,755	4,703	1,204	55	9	108	95	47
Warren.....	116,648	23,393	22,813	6,613	23,142	60,464	6,220	5,067	1	555	128	.....
Washington.....	23,747	3,043	72,137	.....	18,272	10,158	2,233	80	23	392	110	15
Wayne.....	42,863	18,277	29,216	5	8,523	22,886	3,619	183	1	448	640	72
White.....	38,723	7,099	45,734	.....	2,667	5,816	1,716	.....	.....	252	244	.....
Whiteside.....	128,660	86,852	463	16,239	23,432	79,771	2,874	8,156	2,043	1,396	55	.....
Will.....	138,217	74,684	823	2,934	64,705	109,450	6,112	10,770	62	3,963	27	2,495
Williamson.....	23,059	3,436	28,567	.....	4,891	11,700	1,820	29	3	103	294	8
Winnebago.....	74,655	22,860	885	4,669	42,779	61,024	2,153	10,469	550	1,127	17	.....
Woodford.....	116,930	24,909	2,090	7,836	33,123	51,590	2,915	5,635	175	680	88	.....
Totals.....	7,918,831	2,161,760	2,131,336	303,736	1,631,139	4,193,894	290,646	235,742	23,494	90,351	14,949	110,016

Value of Crops—Continued.

Countries.	Corn.....	Meadows.	Winter wheat.	Spring wheat.	Oats.....	Pasture..	Orchards.	Winter rye.	Barley...	Irish potatoes.	Sorghum.	Flax seed.
Jersey.....	\$383,432	\$80,860	\$1,595,197	\$37,991	7,835	\$50,404	\$14,041	\$941	\$3,034	\$6,474	.....	\$16,904
JoDavies.....	835,743	104,128	63,004	107,112	314,570	100,729	18,513	18,178	.....	49,620	.....	8,126
Johnson.....	75,368	44,435	175,594	112,453	12,453	11,896	10,384	108	.....	2,925	.....	3,180
Kane.....	787,403	470,831	9,840	37,835	258,621	277,781	12,545	15,384	2,842	60,082	.....	2,088
Kentakee.....	398,620	351,821	1,251	178,680	142,625	142,625	7,895	65,243	.....	20,747	.....	225
Kentall.....	175,430	224,304	1,251	18,023	110,391	198,018	21,224	1,704	.....	17,490	.....	13,390
Knox.....	1,754,707	273,023	5,440	112,654	323,618	51,730	26,448	46,801	806	70,845	.....	43
Lake.....	8,340,789	718,925	10,005	33,160	241,213	125,926	18,175	4,329	1,076	41,177	.....	102,172
LaSalle.....	8,242,624	75,490	10,691	116,624	416,633	389,830	22,519	23,085	6,035	73,899	.....	4,347
Lawrence.....	2,262,754	75,490	306,470	8,574	12,817	25,889	12,408	1,224	1,490	13,779	.....	9,472
Lee.....	1,305,917	204,083	.....	303,286	139,781	274,912	29,505	65,646	795	63,472	.....	3,888
Livingston.....	3,727,527	207,718	9,496	114,134	215,085	180,903	75,915	41,533	1,125	34,632	.....	105,987
Loran.....	2,010,434	110,470	224,981	15,344	83,302	179,491	16,440	13,884	883	25,500	.....	7,830
Macon.....	1,413,101	169,297	150,530	3,192	124,446	169,417	53,534	1,535	242	26,617	.....	6,269
Macoupin.....	1,598,235	177,925	1,946,621	8,812	91,612	220,889	85,185	1,535	.....	153,309	.....	4,435
Madison.....	1,249,890	155,915	2,232,786	.....	180,593	100,371	31,680	512	121	153,309	.....	24,544
Marion.....	1,335,657	122,316	2,536,792	24,300	50,925	73,315	20,520	11,785	1,446	15,686	.....	2,400
Marshall.....	1,521,972	157,170	.....	39,687	95,216	104,606	30,975	18,527	.....	8,948	.....	3,402
Mason.....	642,191	19,170	141,736	7,975	23,663	3,770	5,097	.....	.....	8,000	.....	12,192
Massac.....	101,828	139,978	189,069	.....	418,704	5,878	2,744	156	.....	74,637	.....	1,017
McDonough.....	1,405,618	139,032	64,028	103,184	111,605	81,095	25,310	41,643	5,594	80,697	.....	9,024
McHenry.....	801,058	341,810	50,378	81,017	307,172	109,026	43,884	11,936	.....	13,150	.....	7,738
McLean.....	3,893,879	287,551	86,912	68,876	398,143	379,635	71,507	101,615	.....	28,161	.....	5,119
Menard.....	729,055	35,070	86,912	45,104	72,403	72,403	6,892	85,885	.....	75,440	.....	8,175
Mercer.....	1,688,725	123,728	27,107	74,425	113,975	263,198	38,501	83,885	.....	15,898	.....	.....
Monroe.....	233,167	114,015	1,085,744	.....	26,625	26,625	26,625	421	.....	17,734	.....	.....
Montgomery.....	1,926,860	161,904	1,203,068	1,825	105,558	116,041	15,800	17,734	.....	5,420	.....	2,819
Morgan.....	1,107,684	204,438	355,365	19,814	110,848	231,942	12,100	51,192	.....	74,658	.....	5,225
Moultrie.....	1,666,751	50,211	176,246	1,663	74,821	37,949	12,647	120,237	47,141	3,110	.....	2,797
Ogle.....	1,323,758	282,668	80,957	138,098	438,775	119,302	17,647	51	.....	10,591	.....	2,142
Peoria.....	1,145,897	16,716	425,239	8,331	88,989	10,498	10,170	37,831	.....	23,643	.....	7,387
Perry.....	1,861,818	103,521	143,248	3,311	116,978	123,634	17,841	87,831	276	55,860	.....	11,400
Pike.....	805,182	144,880	1,484,190	908	40,680	104,696	29,775	814	177	7,209	.....	4,207
Pope.....	224,136	28,519	109,551	.....	13,468	27,620	7,925	381	.....	38,022	.....	7,817
Pulaski.....	114,454	23,110	143,338	.....	3,973	2,021	3,753	10,433	342	8,611	.....	2,635
Putnam.....	462,674	43,675	6,263	26,974	27,678	40,447	23,340	461	1,270	8,022	.....	2,846
Randolph.....	224,597	47,880	1,684,839	.....	68,577	39,909	19,089	570	.....	76,910	.....	2,846
Richland.....	802,425	180,250	10,867	75,461	13,057	55,696	2,645	23,766	4,560	1,925	.....	.....
Rock Island.....	207,260	36,615	155,365	683	85,061	174,195	2,610	.....	.....	.....	.....	.....
Saline.....	.....	.....	.....	.....	.....	1,531	.....	.....	.....	.....	.....	.....

Sangamon.....	1,718,690	159,184	566,016	11,411	72,298	387,209	24,730	29,700	285	23,660	4,424	236
Schuyler.....	639,170	93,123	411,886	7,593	30,546	69,680	11,120	10,867	55	6,143	11,978	.....
Scott.....	651,151	52,532	499,555	3,157	6,143	53,921	6,762	3,519	44	17,192	2,592	.....
Shelby.....	1,099,432	187,093	750,017	14,347	142,053	100,561	16,464	15,915	55	56,220	14,400	716
Stark.....	931,288	102,156	829,132	91,051	112,395	112,395	13,310	15,466	48	14,168	2,665	.....
St. Clair.....	669,871	232,527	216,447	.....	93,570	129,630	60,080	1,570	1,112	164,427	1,118	.....
Stephenson.....	1,068,413	431,701	105,466	.....	2-3,910	126,619	11,615	89,244	34,833	45,925	1,681	20,160
Tazewell.....	1,564,453	31,106	275,764	32,142	206,310	126,519	20,218	80,296	1,524	22,067	2,970	.....
Union.....	2,633,663	67,406	438,454	1,085	15,156	19,775	26,304	30,407	44	8,280	3,974	.....
Vermilion.....	2,217,967	217,859	630,454	5,625	123,016	237,731	45,975	30,332	88	19,150	11,664	62,520
Warren.....	1,522,256	36,073	293,390	.....	6,153	18,812	7,117	561	99	6,728	3,391	461
Washington.....	1,912,343	126,924	1,027,231	54,557	183,235	208,322	15,678	89,533	11	22,363	5,120	.....
Wayne.....	394,338	19,807	305,955	.....	105,247	20,316	11,165	1,056	280	23,520	7,700	46,138
White.....	432,119	123,368	676,405	46	46,565	51,718	50,668	1,431	11	23,344	23,652	731
Whiteside.....	1,801,240	51,112	9,052	.....	12,322	15,994	3,432	39	.....	11,340	5,807	.....
Will.....	1,634,209	721,940	8,075	97,434	263,575	279,108	18,681	53,723	23,495	69,800	4,400	24,950
Williamson.....	231,866	40,520	281,001	27,930	595,295	866,657	67,282	13,841	684	216,380	1,100	30
Winnebago.....	906,782	154,309	15,974	42,628	32,280	189,174	31,995	227	3,312	3,326	9,754	.....
Woodford.....	1,593,197	336,297	44,935	90,909	389,239	182,770	29,150	45,060	1,700	88,318	3,536	.....
Totals.....	\$97,483,052	\$10,423,012	\$97,206,757	\$2,663,842	\$12,039,162	\$12,319,620	\$2,497,637	\$1,991,404	\$395,961	\$3,509,788	\$570,257	\$1,206,763

Hog Product, 1879.

Counties.	No. hogs assessed May, 1879.	Percent of hogs assessed, marketed ...	No. hogs marketed....	Average gross weight hogs marketed.....	Total gross weight hogs marketed.....	Average value per 100 pounds, live weight.	Value of hog product marketed.....	Supply hogs on hand Dec. 31, 1879, compared with same date, 1878.
Adams.....	49,664	62	30,804	279	8,594,316	\$3 60	\$309,395	90
Alexander.....	5,916	65	3,845	168	645,960	3 15	20,347	86
Bond.....	10,676	60	6,406	237	1,518,222	3 35	50,860	90
Boone.....	14,123	80	11,298	275	3,106,950	3 30	102,529	70
Brown.....	18,171	76	13,810	275	3,797,750	3 75	142,415	90
Bureau.....	82,401	65	53,561	265	14,193,665	3 15	447,100	86
Calhoun.....	9,431	65	6,130	218	1,336,340	3 25	43,431	80
Carroll.....	31,543	65	20,503	300	6,150,900	3 25	199,904	75
Cass.....	10,804	80	8,715	235	2,048,025	3 25	66,560	66
Champaign.....	49,916	63	31,447	222	6,981,234	3 25	226,889	60
Christian.....	40,744	61	24,854	232	5,706,123	3 35	193,165	80
Clark.....	21,237	63	13,379	226	3,023,654	3 60	108,851	68
Clay.....	14,255	65	9,266	245	2,270,170	3 20	72,645	100
Clinton.....	10,776	75	8,082	237	1,834,614	3 30	60,542	75
Coles.....	32,035	75	24,026	255	6,126,690	3 25	199,115	55
Cook.....	20,180	80	16,144	245	3,955,280	3 50	138,434	68
Crawford.....	16,250	64	10,419	225	2,344,275	3 35	78,533	85
Cumberland.....	11,423	30	3,427	248	849,896	3 40	28,896	90
DeKalb.....	37,160	80	29,728	331	9,839,968	3 45	339,478	80
DeWitt.....	23,207	76	17,637	237	4,179,969	3 10	129,579	110
Douglas.....	22,383	70	15,654	261	4,085,694	3 50	142,999	92
DuPage.....	12,452	80	9,962	185	1,842,970	3 45	63,582	74
Edgar.....	32,466	68	21,428	250	5,357,000	3 50	187,495	75
Edwards.....	13,485	75	10,076	235	2,367,880	3 50	82,875	83
Effingham.....	10,559	50	5,279	235	1,240,545	3 50	43,419	93
Fayette.....	22,483	63	14,167	250	3,541,750	3 30	116,877	103
Ford.....	17,646	79	13,940	247	3,443,180	3 30	113,624	82
Franklin.....	12,963	* 70	9,074	240	2,177,760	3 10	67,510	93
Fulton.....	58,167	80	46,534	273	12,657,248	3 30	417,689	80
Gallatin.....	12,756	60	7,654	167	1,278,218	3 05	38,985	72
Greene.....	23,128	50	11,563	260	3,006,380	3 25	97,707	66
Grundy.....	20,965	70	14,678	270	3,963,060	3 35	132,762	80
Hamilton.....	11,946	40	4,778	232	1,103,496	3 35	37,134	60
Hancock.....	49,161	60	29,497	225	6,686,825	3 40	225,652	75
Hardin.....	8,879	35	3,108	175	543,900	3 25	17,676	55
Henderson.....	23,705	77	18,253	250	4,563,250	3 00	136,897	30
Henry.....	31,726	60	49,036	255	12,504,180	3 10	387,629	75
Iroquois.....	50,868	76	38,660	235	9,085,100	3 00	273,553	90
Jackson.....	15,355	66	10,134	208	2,107,872	3 50	73,775	100
Jasper.....	12,012	77	9,249	250	2,312,250	3 55	82,084	100
Jefferson.....	16,826	63	10,600	225	2,385,000	3 25	77,512	90
Jersey.....	18,363	64	11,752	260	3,055,520	3 60	109,998	80
JoDavies.....	36,124	80	28,899	300	8,669,700	3 20	277,430	65
Johnson.....	10,539	75	7,904	240	1,896,960	3 50	66,393	100
Kane.....	23,378	80	18,702	260	4,862,520	3 30	160,463	90
Kankakee.....	13,477	65	8,760	250	2,190,000	3 40	74,460	70
Kendall.....	22,997	60	13,798	260	3,597,480	3 25	116,593	62
Knob.....	55,344	90	49,810	285	14,195,850	3 40	482,658	75
Lake.....	12,893	80	10,268	270	2,771,820	3 20	88,698	65
LaSalle.....	67,365	75	50,524	280	14,146,720	3 21	459,768	60
Lawrence.....	14,528	* 70	10,170	240	2,440,800	2 75	67,122	83
Lee.....	34,286	60	20,572	237	4,875,564	3 10	151,142	70
Livingston.....	77,480	70	54,236	267	14,481,012	3 50	506,835	46
Logan.....	40,041	73	29,230	274	8,009,020	3 35	265,302	68
Macon.....	37,827	75	28,370	245	6,950,650	3 25	225,896	66
Macoupin.....	45,297	80	36,238	236	8,552,168	3 25	277,945	91
Madison.....	32,102	62	19,903	213	4,239,339	3 50	148,376	105
Marion.....	17,542	75	13,156	180	2,368,080	3 25	76,962	120
Marshall.....	30,688	62	19,026	286	5,441,436	3 55	193,170	87
Mason.....	13,670	65	8,885	246	2,185,710	3 15	68,849	50
Massac.....	9,408	77	7,344	225	1,629,900	4 15	67,640	87
McDonough.....	49,339	57	28,123	250	7,030,750	3 25	228,499	50
McHenry.....	23,311	80	18,649	258	4,774,144	3 15	150,385	78
McLean.....	86,711	77	66,767	251	16,753,517	3 25	544,651	97
Menard.....	16,246	70	11,372	237	2,695,164	3 25	87,592	83
Mercer.....	49,904	63	30,940	281	8,694,140	3 40	285,610	50
Monroe.....	10,216	60	6,130	182	1,115,660	3 50	39,048	82

Hog Product—Continued.

Counties.	No. hogs assessed May, 1879.....	Per cent of hogs assessed, marketed....	No. hogs marketed....	Average gross weight hogs marketed.....	Total gross weight hogs marketed.....	Average value per 100 pounds, live weight..	Value of hog product marketed.....	Supply hogs on hand Dec. 30, 1879, compared with same date, 1878.
Montgomery.....	30,417	60	18,250	250	4,562,500	\$3 00	\$136 875	85
Morgan.....	10,787	72	7,767	225	1,747,575	3 55	62,038	90
Moultrie.....	18,784	70	13,135	208	2,732,080	3 35	91,524	94
Ogle.....	45,168	65	29,359	275	8,073,725	3 35	270,469	85
Peoria.....	40,232	82	32,990	321	10,589,790	3 55	375,937	120
Perry.....	7,035	53	3,728	237	883,536	3 30	29,157	38
Piatt.....	23,677	76	17,994	233	4,192,602	3 10	129,970	82
Pike.....	43,662	66	28,817	250	7,204,250	3 00	216,129	65
Pope.....	16,485	* 70	11,539	225	2,596,275	3 15	81,743	90
Pulaski.....	4,122	* 70	2,885	165	476,025	3 75	17,850	.....
Putnam.....	12,430	70	8,701	310	2,697,310	3 45	93,157	46
Randolph.....	16,944	* 70	11,861	225	2,668,725	3 15	84,064	110
Richland.....	10,262	72	7,389	243	1,795,527	3 60	64,638	75
Rock Island.....	29,559	* 70	20,691	263	5,441,733	3 25	176,855	53
Saline.....	15,165	82	12,435	250	3,108,750	3 75	85,489	110
Sangamon.....	55,672	98	54,558	225	12,275,550	3 25	398,953	76
Schuyler.....	26,165	62	16,222	253	4,115,276	3 15	131,836	82
Scott.....	15,631	70	10,942	250	2,735,500	3 40	93,007	62
Shelby.....	37,839	95	35,947	338	8,555,886	3 35	286,605	117
Stark.....	30,092	80	24,174	268	7,174,052	3 25	233,155	58
St. Clair.....	14,703	* 70	10,292	262	3,005,264	3 40	102,177	112
Stephenson.....	45,159	65	29,353	258	7,573,074	3 25	216,126	71
Tazewell.....	36,710	63	23,127	264	6,105,528	3 50	213,693	75
Union.....	15,956	* 70	11,169	250	2,792,250	2 75	78,746	100
Vermilion.....	47,825	75	35,869	235	8,423,215	3 40	286,593	90
Wabash.....	7,538	70	5,273	229	1,207,517	3 00	36,275	59
Warren.....	40,811	88	35,097	208	7,300,176	3 25	237,256	71
Washington.....	9,018	60	5,411	250	1,352,750	4 00	54,108	110
Wayne.....	22,997	69	15,868	238	3,776,584	3 45	130,293	95
White.....	23,087	75	17,315	225	3,895,875	3 65	142,200	66
Whiteside.....	45,521	* 70	31,865	310	9,878,150	3 00	296,343	75
Will.....	30,310	80	24,248	263	6,377,224	3 50	223,202	67
Williamson.....	17,858	70	12,501	200	2,500,200	2 80	70,006	87
Winnebago.....	23,145	77	17,822	272	4,847,584	3 35	162,394	71
Woodford.....	39,375	85	33,469	270	9,036,630	3 25	293,689	50
Totals.....	2,799,051	70	1,984,194	254	504,165,316	\$3 30	\$16,640,061	.....

* Estimated.

Beef Cattle.

Counties.	No. of cattle assessed May, 1879.....	Per cent. of cattle assessed, marketed ...	No. of cattle marketed.	Average gross weight of cattle marketed.	Total gross weight of cattle marketed.....	Average value pr. owl, live weight.....	Total value of cattle marketed	Supply cattle on hand Dec. 30, 1879, compared with same date, 1876.
Adams	24,544	10	2,454	1,050	2,576,700	\$3 25	\$63,742	100
Alexander.....	2,242	10	224	1,090	244,160	3 40	5,859	86
Bond	9,572	15	1,437	1,075	1,543,700	3 05	47,082	95
Boone	18,556	15	2,783	1,135	3,155,705	3 55	94,761	93
Brown	8,403	25	2,101	1,066	2,239,666	3 55	84,227	90
Bureau	36,802	21	7,723	1,100	8,500,800	3 35	284,776	95
Calhoun	4,295	15	644	850	547,400	3 50	13,685	100
Carroll	26,850	10	2,685	1,200	3,222,000	3 00	128,880	90
Cass	10,296	50	5,148	1,280	6,589,440	3 00	263,577	90
Champaign	25,858	15	3,879	900	3,491,100	3 50	122,188	92
Christian	22,750	25	5,683	1,200	6,825,600	3 55	249,134	105
Clark	10,921	10	1,092	1,065	1,162,980	3 50	40,704	90
Clay	10,063	15	1,509	950	1,433,550	3 55	37,989	107
Clinton	7,579	25	1,895	1,800	2,463,500	3 50	88,978	107
Coles	19,380	+ 20	3,872	1,200	4,646,400	3 60	167,270	65
Cook	40,040	15	6,006	+1,090	6,516,540	3 50	229,128	90
Crawford	7,226	30	2,163	962	2,085,616	3 00	62,168	97
Cumberland	8,975	35	2,441	1,000	2,441,000	3 10	75,671	75
DeKalb	43,133	17	7,333	1,225	8,982,925	3 50	314,402	100
DeWitt	13,141	7	920	1,350	1,242,000	3 25	40,365	112
Douglas	15,541	20	3,108	1,850	4,195,800	3 40	167,832	100
DuPage	20,680	19	3,925	1,080	4,160,500	3 50	145,617	78
Edgar	27,323	38	10,383	1,200	12,459,600	3 35	417,396	95
Edwards	7,111	+ 20	1,422	1,066	1,515,852	3 25	37,896	110
Effingham	9,863	18	1,775	1,066	1,892,150	3 50	47,303	78
Fayette	15,825	20	3,165	1,150	3,639,750	3 00	709,192	103
Ford	7,347	20	1,469	1,000	1,469,000	3 20	47,008	85
Franklin	4,467	+ 20	893	1,000	893,000	3 25	20,092	100
Fulton	35,078	30	10,523	1,200	12,627,600	3 50	441,964	86
Gallatin	5,122	12	615	730	448,950	3 90	10,325	95
Greene	18,839	18	3,391	1,900	4,408,300	3 75	165,811	75
Grundy	17,595	17	2,991	1,100	3,290,100	3 10	101,993	85
Hamilton	6,998	17	1,189	850	1,010,850	2 50	25,267	50
Hancock	30,400	19	5,776	1,175	6,786,800	3 50	237,638	93
Hardin	2,132	10	213	800	170,400	2 25	3,334	100
Henderson	13,836	+ 20	2,767	1,325	3,666,275	3 80	139,319	97
Henry	40,235	21	8,449	1,250	10,561,250	3 00	316,839	90
Iroquois	29,748	20	5,950	1,250	7,437,500	3 50	260,312	95
Jackson	6,552	15	983	650	638,950	2 25	14,375	100
Jasper	9,481	15	1,422	865	1,230,030	2 40	29,520	100
Jefferson	10,117	15	1,518	800	1,214,400	2 75	33,396	112
Jersey	7,940	18	1,429	1,075	1,536,175	3 25	49,926	94
JcDavless	31,709	22	6,976	1,225	8,545,600	3 45	294,823	100
Johnson	3,769	10	376	600	225,600	2 00	4,512	100
Kane	16,469	17	7,196	1,166	8,390,536	3 90	327,229	100
Kankakee	19,858	20	3,294	1,250	4,117,500	4 00	164,700	75
Kendall	35,670	15	5,350	1,285	6,874,750	3 95	271,550	90
Knox	21,177	15	3,177	950	3,018,150	3 30	99,597	83
LaSalle	50,794	25	12,683	1,137	14,420,571	3 45	497,511	100
Lawrence	7,872	72	5,668	900	5,101,200	3 10	158,137	100
Lee	31,449	20	6,290	950	5,975,500	3 35	200,179	82
Livingston	29,286	25	7,321	1,200	8,785,200	2 75	241,593	100
Logan	18,052	30	5,416	1,342	7,268,272	3 15	223,951	81
Macon	17,315	10	1,731	1,166	2,018,346	3 60	72,659	82
Macoupin	31,070	75	23,302	1,137	26,494,374	3 90	1,083,281	92
Madison	12,404	15	1,861	968	1,797,728	2 85	51,234	95
Marion	13,726	45	6,177	1,100	6,794,700	2 25	152,880	117
Marshall	14,564	20	2,913	1,200	3,495,600	3 50	122,346	92
Mason	6,444	10	644	1,050	676,200	3 10	20,962	110
Massac	3,278	10	327	+1,090	356,430	3 75	13,365	70
McDonough	21,828	20	4,366	1,400	6,952,400	4 00	278,096	50
McHenry	39,519	15	5,928	938	5,560,464	3 15	175,156	78
McLean	45,610	32	14,595	1,318	19,207,020	3 75	720,262	90
Menard	11,314	50	5,657	1,300	7,354,100	3 65	268,425	88
Mercer	28,804	30	8,641	1,300	11,233,300	3 65	410,015	102
Monroe	3,632	10	363	850	308,550	3 80	11,723	112

Beef Cattle—Continued.

Counties.	No. of cattle assessed May, 1879	Per cent. of cattle assessed, marketed	No. of cattle marketed	Average gross weight of cattle marketed...	Total gross weight of cattle marketed.....	Average value pr. cwt., live weight.....	Total value of cattle marketed	Supply cattle on hand Dec. 30, 1879, computed with same date, 1879
Montgomery	18,633	50	9,316	1,000	9,316,000	\$3 25	\$302,770	75
Morgan	13,187	64	8,440	1,300	10,972,000	4 00	438,880	78
Moultrie	10,418	26	2,707	1,400	3,789,800	3 50	138,848	80
Ogle	45,749	10	4,574	1,066	4,875,684	3 15	153,591	104
Peoria	29,874	15	4,481	1,200	5,377,200	4 55	245,682	88
Perry	5,581	21	1,172	775	908,300	2 25	20,438	100
Platt	12,681	35	4,438	1,166	5,174,708	3 10	160,416	90
Pike	21,835	21	4,480	1,281	5,738,880	3 80	218,078	72
Pope	5,894	10	583	850	495,550	2 75	13,628	100
Pulaski	2,719	17	462	950	438,900	2 75	12,070	96
Putnam	6,766	40	2,706	1,200	3,247,200	3 40	110,405	90
Randolph	9,386	120	1,877	800	1,501,600	3 35	50,803	97
Richland	8,682	15	1,328	918	1,216,448	2 30	27,877	92
Rock Island	19,858	25	4,990	1,150	5,738,500	3 90	223,801	95
Saline	4,777	20	955	700	668,500	2 00	13,370	115
Sangamon	43,719	20	8,743	1,325	11,584,475	3 85	446,003	105
Schuyler	15,879	21	3,335	1,208	4,028,680	3 95	159,134	90
Scott	6,992	25	1,748	1,270	2,219,960	3 50	77,686	60
Shelby	23,274	20	4,655	1,233	5,739,615	3 60	206,625	106
Stark	13,311	15	1,997	1,225	2,446,825	3 75	91,786	82
St. Clair	8,177	10	817	950	776,150	3 25	25,223	90
Stephenson	28,965	18	5,205	1,066	4,013,490	2 95	118,898	96
Tazewell	21,547	20	4,309	1,183	4,882,097	3 60	175,755	103
Union	5,800	120	1,120	1,090	1,220,800	13 25	39,676	...
Vermilion	32,508	20	6,502	1,333	8,667,166	3 65	316,353	100
Warren	4,738	10	473	870	411,516	2 80	11,522	74
Washington	21,933	17	3,729	1,325	4,940,925	4 05	200,106	118
Wayne	9,200	17	1,564	800	1,251,200	4 00	50,048	100
White	16,472	15	2,471	933	2,305,443	2 50	57,635	100
Whiteside	9,254	20	1,851	975	1,804,725	2 80	50,531	74
Will	36,245	40	14,498	1,300	18,847,400	4 35	819,862	110
Williams	43,376	20	8,675	1,125	9,759,375	3 50	341,579	98
Winnebago	5,499	21	1,155	725	837,375	2 35	19,679	100
Woodford	28,085	10	2,808	1,097	3,074,891	3 25	98,994	151
Totals	1,862,265	22	408,982	1,182	476,473,759	\$3 50	\$16,751,450	.....

†Estimated.

Fat Sheep.

Counties.	No. of sheep assessed May, 1879.....	Per cent. of sheep assessed, marketed....	No. of sheep marketed	Average gross weight of sheep marketed...	Total gross weight sheep marketed.....	Average value pr. cwt., live weight.....	Total value of sheep marketed.....	Supply sheep on hand Dec. 20, 1879, compared with same date 1878..
Adams.....	13,301	20	2,680	90	239,400	\$3 10	\$7,421	98
Alexander.....	975	10	97	82	7,951	3 50	278	80
Bond.....	7,775	22	1,710	92	157,320	2 60	4,090	108
Boone.....	16,039	16	2,568	93	238,072	3 00	7,083	87
Brown.....	4,920	25	1,230	103	126,590	90	4,624	108
Bureau.....	6,708	25	1,677	*100	167,700	00	5,031	100
Calhoun.....	838	25	209	*100	20,900	*95	616	....
Carroll.....	3,848	10	385	130	50,050	00	1,500	100
Cass.....	1,455	10	145	130	14,835	65	544	....
Champaign.....	3,253	15	1,238	105	129,590	50	4,555	100
Christian.....	3,843	24	1,882	100	185,200	00	5,646	100
Clark.....	8,779	18	1,580	100	155,000	75	4,345	82
Clay.....	9,475	40	3,791	95	360,050	40	8,040	105
Clinton.....	6,100	25	1,525	87	122,000	85	3,477	95
Coles.....	7,9 6	30	2,375	90	230,875	60	5,990	80
Cook.....	6,030	10	603	100	60,300	25	1,960	100
Crawford.....	9,483	20	1,897	100	189,700	10	5,851	110
Cumberland.....	5,032	17	855	85	72,875	50	1,817	105
DeKalb.....	12,045	10	1,204	110	132,440	25	4,303	95
DeWitt.....	10,868	05	543	112	60,514	00	1,824	107
Douglas.....	5,480	*20	1,097	95	104,215	25	3,886	100
DuPage.....	11,134	21	2,333	100	233,800	50	8,183	86
Edgar.....	12,771	22	2,810	110	309,100	00	9,273	75
Edwards.....	9,560	*20	1,872	100	187,200	60	4,807	75
Effingham.....	4,635	25	1,159	82	95,038	80	2,470	72
Fayette.....	13,155	20	2,632	94	247,408	50	6,185	95
Ford.....	1,150	*20	230	*100	23,000	*95	678	....
Franklin.....	4,637	*20	927	85	78,795	35	1,852	80
Fulton.....	17,146	22	3,772	100	377,200	95	11,127	95
Gallatin.....	2,677	12	321	75	24,075	50	602	90
Greene.....	10,026	12	1,203	104	125,112	15	3,940	80
Grundy.....	2,519	15	382	110	42,020	50	1,470	95
Hamilton.....	6,963	15	1,044	95	99,180	00	1,983	55
Hancock.....	4,095	50	2,017	*100	204,700	*95	6,049	....
Hardin.....	2,073	10	207	70	14,490	20	290	100
Henderson.....	1,945	20	389	90	35,010	30	1,070	100
Henry.....	4,749	11	527	*100	52,700	*2 95	1,555	....
Iroquois.....	4,474	*20	895	85	78,075	4 00	3,044	100
Jackson.....	3,135	22	690	100	69,000	2 50	1,725	100
Jasper.....	6,444	17	1,065	110	120,450	1 75	1,107	90
Jefferson.....	9,122	07	638	100	63,800	2 50	1,595	105
Jersey.....	6,196	25	1,549	103	150,547	3 15	5,024	100
JoDavies.....	8,443	*20	1,688	90	151,920	2 75	4,177	96
Johnson.....	3,052	20	610	150	91,500	1 25	1,144	100
Kane.....	12,372	18	2,221	110	244,970	*3 35	8,247	100
Kankakee.....	2,182	05	109	*100	10,900	*95	321	....
Kendall.....	8,790	32	2,813	125	351,625	*3 95	12,831	83
Knox.....	10,819	26	2,813	96	270,048	5 50	8,775	96
Lake.....	86,519	23	19,898	90	1,790,910	3 00	53,727	70
LaSalle.....	12,845	15	1,927	115	221,805	3 50	7,750	90
Lawrence.....	5,688	*20	1,138	140	156,320	3 00	4,779	87
Lee.....	7,243	11	797	98	78,106	3 80	2,968	95
Livingston.....	3,456	10	345	100	34,500	4 00	1,380	133
Logan.....	4,856	*20	971	105	101,955	3 05	3,108	87
Macon.....	7,097	17	1,196	115	137,540	3 25	4,469	106
Macoupin.....	19,765	*20	3,953	70	276,710	3 00	8,301	97
Madison.....	7,9 4	40	3,194	92	293,848	2 75	8,079	95
Marion.....	11,500	65	7,475	107	799,825	2 00	15,996	100
Marshall.....	5,074	*20	1,015	85	86,275	3 00	2,589	96
Mason.....	4,443	*20	89	105	9,345	3 00	279	75
Massac.....	1,397	10	140	*100	14,000	*95	413	....
McDonough.....	6,896	20	1,379	120	165,480	3 00	4,965	80
McHenry.....	44,968	21	9,443	96	906,528	3 75	33,994	110
McLean.....	19,894	15	2,954	89	265,576	3 35	8,898	105
Menard.....	5,713	15	857	100	85,700	3 65	3,128	93
Mercer.....	4,937	20	987	102	100,674	3 35	3,373	105
Monroe.....	1,373	20	265	100	26,500	3 00	795	125

Fat Sheep—Continued.

Counties.*	No. of sheep assessed May, 1879.....	Per cent. of sheep as- sessed, marketed.	No. of sheep marketed	Average gross weight of sheep marketed..	Total gross weight sheep marketed	Average value pr. cwt., live weight.....	Total value of sheep marketed	Supply sheep on hand Dec. 20, 1878, compared with same date, 1878.
Montgomery.....	10 874	25	2 588	100	266,800	2 75	7,337	100
Morgan.....	6,178	25	1,544	* 100	154,400	* 2 95	4,555	...
Moultrie.....	4,451	18	801	107	85,707	2 75	2,357	100
Ogle.....	9,129	12	1,095	90	98,550	3 50	3,447	100
Peoria.....	5,900	23	1,357	137	185,909	3 60	5,32	105
Perry.....	2,553	27	770	80	61,600	2 10	1,294	98
Piatt.....	3,495	20	699	90	62,810	3 00	1,884	90
Pike.....	11,557	16	1,849	100	184,900	3 00	5,547	106
Pope.....	7,107	10	711	100	71,100	4 00	2,844	100
Pulaski.....	1 072	21	225	105	23,625	2 50	590	85
Putnam.....	1 740	20	348	110	38,280	3 00	1,149	90
Randolph.....	6,903	20	1,381	110	151,910	3 50	5,316	100
Richland.....	8,362	20	1,272	90	114,480	2 25	2,576	90
Rock Island.....	2,185	12	262	80	22,580	3 10	732	62
Saline.....	6,145	10	614	80	49,120	2 00	982	75
Sangamon.....	17,032	20	3,406	107	364,442	3 15	11,479	107
Schuyler.....	6,156	15	923	111	102,453	2 85	2,918	95
Scott.....	5,647	25	1,432	72	101,664	3 10	3,153	70
Shelby.....	14,935	25	3,734	90	336,060	3 10	10,419	107
Stark.....	6,319	15	948	120	113,760	3 25	3,698	100
St. Clair.....	4,240	12	509	87	44,283	2 40	1,063	98
Stephenson.....	8,572	21	1,800	125	225,000	3 45	7,762	92
Tazewell.....	8,548	25	2,137	110	235,070	3 25	7,611	100
Union.....	3,657	* 20	731	* 100	73,100	* 2 95	2,156	.....
Vermilion.....	22,783	29	6,607	98	634,272	3 10	19,663	93
Wabash.....	3,729	42	1,566	120	187,920	2 20	4,134	50
Warren.....	5,273	12	633	107	67,731	3 25	2,200	92
Washington.....	4,562	25	1,140	100	114,000	3 00	3,420	100
Wayne.....	10,960	16	1,754	85	149,090	2 25	3,365	87
White.....	6,058	19	1,151	102	118,553	2 15	2,543	72
Whiteside.....	6,223	10	622	125	77,750	3 00	2,331	100
Will.....	6,849	15	1,027	100	102,700	3 65	3,748	90
Williamson.....	7,527	10	753	90	67,770	2 00	1,356	73
Winnebago.....	12,933	15	1,940	95	184,300	3 25	5,890	100
Woodford.....	3,441	50	1,720	90	154,800	3 25	5,031	80
Totals.....	846,101	20	174,448	98	17,170,331	\$2 98	\$513,884	.....

* Estimated.

Value of Live Stock marketed.

Counties.	Value of hogs marketed 1877	Value of hogs marketed 1878	Value of hogs marketed 1879	Value of beef cattle marketed 1879	Value of fat sheep marketed 1879
Adams.....	\$547,109	\$240,897	\$300,395	\$43,742	\$7,421
Alexander.....	11,935	8,415	20,347	5,859	276
Bond.....	69,925	63,690	50,860	47,032	4,080
Boone.....	121,303	111,053	102,529	94,761	7,083
Brown.....	88,039	91,127	142,415	86,227	4,624
Bureau.....	542,005	531,730	447,100	234,776	5,031
Cathoun.....	58,912	57,593	43,431	13,685	616
Carroll.....	291,521	192,975	189,904	128,880	1,500
Cass.....	30,008	41,611	66,560	263,577	544
Champaign.....	357,201	305,334	226,889	122,188	4,550
Christian.....	268,157	186,598	193,165	249,134	5,646
Clark.....	188,903	41,756	108,851	40,704	4,345
Clay.....	97,750	55,823	72,645	37,989	3,640
Clinton.....	61,639	26,959	60,542	68,978	3,477
Coles.....	116,638	119,450	199,115	167,270	5,990
Cook.....	134,768	91,748	138,434	229,128	1,980
Crawford.....	156,492	74,557	78,533	62,568	5,881
Cumberland.....	86,312	57,850	28,896	75,671	1,817
DeKalb.....	469,440	334,310	339,478	314,402	4,303
DeWitt.....	182,295	112,571	129,579	40,865	1,824
Douglas.....	163,315	115,500	142,999	167,832	3,586
DuPage.....	98,093	97,024	63,582	145,617	3,183
Edgar.....	193,151	160,007	187,496	417,896	9,273
Edwards.....	74,809	73,567	82,875	37,698	4,867
Efingham.....	71,860	33,990	43,419	47,303	2,470
Fayette.....	110,407	68,264	116,877	109,192	6,185
Ford.....	184,947	153,345	113,624	47,008	678
Franklin.....	35,532	40,212	67,510	20,092	1,552
Fulton.....	490,234	394,957	417,689	441,969	11,127
Gallatin.....	37,503	43,247	38,985	10,325	802
Greene.....	238,670	107,929	97,707	165,311	3,940
Grundy.....	128,082	145,532	132,762	101,993	1,470
Hamilton.....	50,299	38,567	87,134	25,267	1,983
Hancock.....	331,419	253,690	225,652	237,535	6,039
Hardin.....	49,781	24,983	17,616	3,834	290
Henderson.....	208,628	122,247	136,897	199,319	1,050
Henry.....	731,906	514,674	387,629	316,839	1,535
Iroquois.....	544,600	339,278	272,553	290,312	3,044
Jackson.....	39,257	57,541	73,775	14,375	1,725
Jasper.....	44,581	50,522	82,084	29,520	2,107
Jefferson.....	107,901	61,664	77,512	31,306	1,595
Jersey.....	133,294	114,452	109,936	49,926	5,024
JoDavies.....	223,439	279,129	277,430	294,823	4,177
Johnson.....	108,041	61,753	66,393	4,512	1,144
Kane.....	148,847	161,700	160,473	327,229	8,207
Kankakee.....	168,541	92,223	74,460	164,700	321
Kendall.....	265,444	149,849	116,593	136,388	12,333
Knox.....	662,007	409,121	432,653	271,550	8,775
Lake.....	157,398	106,951	88,698	99,597	53,727
LaSalle.....	756,897	555,834	459,768	497,511	7,756
Lawrence.....	85,770	59,020	67,122	153,137	4,779
Lee.....	374,751	184,721	151,142	200,179	2,968
Livingston.....	696,947	575,559	506,835	241,593	1,580
Logan.....	299,224	234,166	293,302	228,951	3,108
Macon.....	369,161	228,297	225,896	72,659	4,469
Macoupin.....	334,008	229,590	277,945	1,063,281	8,301
Madison.....	239,772	145,528	148,576	51,234	8,079
Marion.....	94,090	59,176	76,963	152,880	15,996
Marshall.....	292,257	247,418	193,170	122,346	2,589
Mason.....	94,650	111,289	68,849	20,962	279
Massac.....	30,363	25,939	67,640	13,365	413
McDonough.....	378,743	275,220	228,499	278,096	4,965
McHenry.....	219,453	174,785	150,385	175,156	33,994
McLean.....	642,151	571,815	544,651	720,262	8,898
Menard.....	127,004	77,436	87,592	268,425	3,128
Mercer.....	299,297	336,438	295,600	410,015	3,373
Monroe.....	57,150	38,639	39,048	11,723	795

Value of Live Stock—Continued.

Counties.	Value of hogs market- ed 1877	Value of hogs market- ed 1878	Value of hogs market- ed 1879	Value of beef cattle marketed 1879	Value of fat sheep mar- keted 1879
Montgomery.....	\$200,124	\$161,729	\$186,875	\$302,770	\$7,337
Morgan.....	120,693	62,028	62,038	438,880	4,555
Moultrie.....	147,422	115,253	91,524	132,643	12,357
Ogle.....	715,018	403,223	270,469	153,591	3,447
Peoria.....	643,787	278,309	375,937	246,662	6,692
Perry.....	24,579	35,077	29,157	20,438	1,294
Piatt.....	172,344	156,006	129,970	160,418	1,884
Pike.....	372,871	288,309	216,129	218,078	5,547
Pope.....	66,494	53,065	81,733	13,628	2,844
Pulaski.....	25,284	11,946	17,850	12,070	590
Putnam.....	163,912	121,705	93,057	110,405	1,149
Randolph.....	75,300	65,592	84,064	50,303	5,316
Richland.....	62,735	44,187	64,638	27,977	2,576
Rock Island.....	214,411	217,830	176,855	223,801	732
Saline.....	86,777	67,050	85,489	13,370	982
Sangamon.....	486,354	287,698	398,953	446,003	11,479
Schuyler.....	170,942	173,609	131,836	159,134	2,918
Scott.....	89,496	87,870	93,007	77,696	3,153
Shelby.....	239,424	172,911	226,605	206,625	10,419
Stark.....	178,242	238,338	223,155	91,736	3,698
St. Clair.....	103,041	31,460	102,177	25,221	1,063
Stephenson.....	354,664	272,986	246,128	118,398	7,762
Tazewell.....	294,108	248,561	213,693	175,755	7,641
Union.....	104,680	41,022	76,786	39,618	2,156
Vermilion.....	380,125	219,073	286,563	316,368	19,663
Wabash.....	50,344	34,919	36,225	11,522	4,134
Warren.....	653,453	313,129	237,256	200,106	2,200
Washington.....	39,260	29,712	54,108	50,048	3,420
Wayne.....	71,604	81,531	130,293	57,635	3,855
White.....	102,979	95,737	142,200	50,531	2,548
Whiteside.....	433,587	277,635	296,343	819,882	2,331
Will.....	258,530	307,431	223,202	341,579	3,748
Williamson.....	92,737	46,487	70,006	19,679	1,356
Winnebago.....	263,249	196,350	162,394	99,934	5,990
Woodford.....	275,587	249,170	205,689	124,110	5,031
Totals.....	\$22,738,881	\$16,724,384	\$16,640,061	\$16,751,450	\$513,884

Counties.	No. of hogs assessed in 1879.	Percent. of hogs died in 1879.	No. of hogs lost by disease in 1879.	Average weight of dead hogs.	Loss by disease in 1879 in pounds.	Average value per 100 pounds.	Amount of loss in 1879.	Amount of loss in 1877.	Amount of loss in 1876.
Adams.....	49,684	04	1,987	121	240,427	\$3 60	\$8,654	\$73,321	\$59,910
Alexander.....	5,916	11	651	60	38,060	3 15	1,232	1,635	185
Bond.....	10,676	17	1,815	75	136,195	3 35	4,559	7,173	7,726
Boone.....	14,123	05	706	200	141,200	3 30	4,660	3,908	4,763
Brown.....	18,171	06	1,090	85	92,650	3 75	3,472	7,165	7,141
Bureau.....	82,401	09	7,416	105	778,680	3 15	24,529	1,837	1,758
Calhoun.....	9,431	...	...	...	...	...	...	2,827	6,835
Carroll.....	31,543	25	7,886	100	798,600	3 25	25,629	40,484	62,191
Cass.....	10,894	02	1,089	62	67,518	3 25	2,194	6,080	8,000
Champaign.....	49,916	10	989	125	124,750	3 25	4,052	15,591	24,231
Christian.....	40,744	06	2,445	70	171,150	3 35	5,732	28,208	29,820
Clark.....	21,327	20	2,447	55	293,585	3 60	8,410	10,438	12,073
Clay.....	14,255	05	715	50	35,650	3 20	1,139	1,615	1,484
Clinton.....	10,776	04	491	30	80,170	3 30	997	4,806	9,572
Coles.....	32,035	03	2,593	125	320,375	3 20	10,413	10,519	4,713
Conk.....	20,180	05	1,009	30	30,270	3 50	1,060	...	...
Crawford.....	16,280	08	1,002	35	97,650	3 35	3,270	5,727	27,252
Cumberland.....	11,478	03	571	75	42,825	3 40	1,455	2,121	5,900
DeKalb.....	37,180	07	2,601	75	195,075	3 45	6,737	29,130	14,125
DeWitt.....	23,207	30	6,960	40	417,720	3 10	12,949	15,109	27,394
Douglas.....	22,363	05	1,118	155	173,290	3 50	6,065	22,768	18,589
DuPage.....	12,452	05	623	100	62,300	3 45	2,149	...	822
Edgar.....	32,466	02	644	100	64,900	3 25	2,271	12,296	10,665
Edwards.....	18,435	04	537	60	32,220	3 50	1,127	6,796	5,450
Effingham.....	10,459	...	...	...	...	...	...	22,534	1,193
Fayette.....	22,488	12	2,698	106	269,800	3 30	8,903	6,241	49,720
Ford.....	17,846	05	882	90	79,390	3 30	2,620	6,539	6,755
Franklin.....	12,963	10	1,296	70	90,720	3 10	2,512	4,115	9,689
Fulton.....	58,187	02	1,163	100	118,300	3 30	3,838	52,524	35,944
Gallatin.....	12,756	05	698	70	44,690	3 05	1,363	7,108	1,776
Greene.....	29,126	09	2,081	68	141,508	3 25	4,599	7,081	15,303
Grundv.....	20,998	04	839	100	83,900	3 35	2,811	2,787	3,514
Hamilton.....	11,946	12	1,433	150	214,950	3 35	7,199	1,428	2,950
Hancock.....	49,161	05	2,458	120	294,980	3 40	10,030	34,673	24,890
Hardin.....	8,879	01	89	150	13,350	3 25	432	1,140	12,585
Henderson.....	23,705	08	1,896	50	94,800	3 00	2,844	23,773	13,560
Henry.....	81,726	07	5,721	120	688,520	3 10	21,281	24,899	32,978
Iroquois.....	50,868	02	1,017	107	108,819	3 00	3,264	22,602	5,763
Jackson.....	15,355	...	...	...	...	...	...	12,387	2,829
Jasper.....	12,012	21	2,522	57	143,754	3 55	5,101	4,446	8,676
Jefferson.....	16,626	10	1,893	100	168,300	3 25	5,470	5,031	13,017
Jersey.....	18,963	02	367	40	14,680	3 60	529	3,410	2,278
JoDaviss.....	36,124	05	1,806	150	270,900	3 20	8,669	12,492	5,944
Johnson.....	10,599	...	...	...	...	...	...	2,298	3,830
Kane.....	23,378	10	2,338	185	432,530	3 30	14,272	7,123	15,030
Kankakee.....	13,477	...	...	...	...	...	...	2,957	1,962
Kendall.....	22,997	15	3,449	112	386,288	3 25	12,555	26,640	29,061
Knox.....	55,344	07	3,874	108	418,392	3 40	14,226	43,542	20,390
Lake.....	12,833	...	...	...	...	...	...	...	16,426
LaSalle.....	67,865	05	3,368	175	589,400	3 25	19,155	99,389	33,982
Lawrence.....	14,528	15	2,179	55	119,845	2 75	3,294	5,457	10,867
Lee.....	34,286	06	2,057	77	153,389	3 10	4,910	38,278	...
Livingston.....	77,480	02	1,550	75	116,250	3 50	4,067	...	14,609
Logan.....	40,041	06	2,402	80	192,160	3 35	6,439	9,725	17,952
Macon.....	37,827	04	1,513	125	189,125	3 25	6,146	33,905	21,640
Macoupin.....	45,297	02	906	77	69,762	3 25	2,288	4,009	11,547
Madison.....	32,102	05	1,605	75	120,375	3 50	4,214	19,173	16,621
Marion.....	17,542	05	877	100	87,700	3 25	2,850	3,767	2,321
Marshall.....	30,688	02	614	93	56,488	3 55	2,006	1,823	15,975
Mason.....	13,670	...	...	...	...	...	...	5,438	24,140
Massac.....	9,408	15	1,411	50	70,550	4 15	2,926	3,971	2,529
McDonough.....	49,339	03	1,480	100	148,000	3 25	4,810	23,280	17,478
McHenry.....	23,311	02	466	90	41,940	3 15	1,320	3,756	2,174
McLean.....	86,711	07	0,070	172	1,044,040	3 25	33,930	71,634	24,347
Menard.....	16,246	04	650	76	49,400	3 25	1,605	11,469	27,120
Mercer.....	49,904	11	5,489	150	823,350	3 40	27,992	85,166	31,038
Monroe.....	10,216	...	...	...	...	...	...	6,893	3,175

Hog Cholera—Continued.

Counties.	No. hogs assessed in 1879.	Per cent. of hogs died in 1879.	No. of hogs lost by disease in 1879.	Average weight of dead hogs.	Loss by disease in 1879 in pounds.	Average value per 100 pounds.	Amount of loss in 1879.	Amount of loss in 1878.	Amount of loss in 1877.	Amount of loss in 1876.
Montgomery..	30,417	25	7,604	80	608,320	\$3 00	18,249	12,838	\$23,090	\$11,171
Morgan.....	10,787	06	647	80	51,820	\$3 55	1,877	8,488	26,597	44,232
Moultrie.....	18,764	05	938	83	59,094	\$3 85	1,980	10,735	4,050	9,216
Ogle.....	45,163	02	903	100	90,300	\$3 55	3,025	33,227	104,468	8,818
Peoria.....	40,232	03	1,207	90	108,630	\$3 55	3,855	66,792	9,150	41,736
Perry.....	7,035	10	703	87	47,101	\$3 30	1,554	1,152	5,972	2,497
Platt.....	23,677	04	947	88	83,336	\$3 10	2,582	9,924	38,372	45,246
Pike.....	43,642	06	2,620	92	241,040	\$3 00	7,230	20,923	21,933	48,012
Pope.....	16,485	...	...	...	...	...	...	1,913	5,331	4,547
Pulaski.....	4,122	...	...	...	...	...	...	260	4,183	...
Putnam.....	12,430	03	373	75	27,975	\$3 45	966	1,235	2,949	2,479
Randolph.....	16,444	10	1,694	120	203,280	\$3 15	6,404	7,345	14,292	10,490
Richland.....	10,262	20	2,052	75	153,900	\$3 60	5,440	651	4,721	1,753
Rock Island..	29,559	07	2,099	102	211,038	\$3 25	6,857	7,630	16,662	12,093
Saline.....	16,165	10	1,516	40	60,640	\$3 75	1,665	1,785	1,083	6,348
Sangamon.....	51,672	12	6,681	70	467,870	\$3 25	15,200	22,829	18,480	69,962
Schuyler.....	26,165	06	1,570	143	224,510	\$3 15	7,072	11,837	6,646	50,880
Scott.....	15,631	15	2,345	100	234,500	\$3 40	7,973	2,075	13,435	8,508
Shelby.....	37,839	04	1,513	122	184,586	\$3 35	6,184	13,363	12,217	34,161
Stark.....	30,092	10	3,009	115	346,035	\$3 25	11,245	17,744	52,670	27,308
St. Clair.....	14,703	...	...	...	...	...	...	...	14,720	5,710
Stephenson...	45,159	10	4,516	112	505,792	\$3 25	16,433	15,402	19,993	7,653
Tazewell.....	36,710	06	2,203	100	220,300	\$3 50	7,710	15,710	47,815	32,532
Union.....	15,956	...	...	...	...	...	...	...	...	...
Vermilion...	47,825	04	1,918	90	172,170	\$3 40	5,855	11,046	45,973	27,868
Wabash.....	7,533	07	527	87	35,309	\$3 00	1,059	1,140	3,641	8,872
Warren.....	40,811	08	3,265	70	228,550	\$3 25	7,426	30,898	22,327	11,546
Washington..	9,018	02	180	100	18,000	4 00	720	9,903	7,361	2,269
Wayne.....	22,997	05	1,150	150	172,500	\$3 45	5,951	1,225	3,645	3,146
White.....	23,687	13	3,001	72	216,072	\$3 65	7,898	6,905	16,692	6,022
Whiteside...	45,521	07	3,186	125	398,250	\$3 00	11,946	3,416	24,067	6,932
Will.....	30,810	...	...	...	...	...	...	...	...	...
Williamson...	17,558	05	893	87	77,691	\$2 80	2,176	7,724	9,260	5,409
Winnebago...	23,145	03	64	116	80,504	\$3 35	2,697	19,672	1,813	...
Woodford.....	39,375	06	2,362	80	188,960	\$3 25	6,162	23,595	21,744	...
Totals.....	2,799,051	06	182,577	93	17,972,348	\$3 25	\$588,487	\$1,438,589	\$1,583,415	\$1,576,012

Sheep killed by Dogs, 1879.

Counties.	No. of sheep assessed May, 1879.....	Per cent. killed by dogs	No. killed by dogs	Value per head of sheep killed	Loss in 1879	Loss in 1878	Loss in 1877	Loss in 1876
Adams.....	13,301	02	266	\$3 00	\$798	\$1,777	\$1,599	.....
Alexander.....	975	04	39	3 25	127			111
Bond.....	7,775	03	233	2 15	501	354	333	898
Boone.....	16,099	03	481	2 35	1,130	1,298	2,807	572
Brown.....	4,920	02	98	2 85	278	500		.....
Bureau.....	6,708					65	49	62
Calhoun.....	838					571	684	111
Carroll.....	3,848	10	384	3 50	1,344	87	46	414
Cass.....	1,455	02	29	3 00	87	392	736	70
Champaign.....	8,253	03	247	3 00	741	293		2,239
Christian.....	7,843	02	157	3 00	471			.....
Clark.....	8,779	07	614	2 30	1,412	1,154	1,078	543
Clay.....	9,475	03	284	1 50	426	475	718	1,024
Clinton.....	6,100	03	183	2 00	366	332	199	153
Coles.....	7,916	05	396	3 00	1,188	278		1,493
Cook.....	6,030	05	301	3 00	903			.....
Crawford.....	9,433	03	284	2 25	639	296	481	768
Cumberland.....	5,032	06	302	2 00	604			549
DeKalb.....	12,045	06	723	3 00	2,169	303	1,340	.....
DeWitt.....	10,868						567	.....
Douglas.....	5,489	05	274	2 50	685	197		396
DuPage.....	11,134	02	223	3 00	669	369	399	165
Edgar.....	12,771	10	1,277	2 00	2,554	729	444	263
Edwards.....	9,360	01	94	2 75	258	356	320	.....
Effingham.....	4,688	10	463	2 00	926			1,499
Fayette.....	13,158	05	653	1 75	1,151	918	998	.....
Ford.....	1,150						112	.....
Franklin.....	4,637	06	278	1 65	459	468	538	247
Fulton.....	17,146	03	514	1 75	899	162		.....
Gallatin.....	2,877	03	80	1 85	143		127	236
Greene.....	10,028	03	301	3 00	903	1,068	370	1,238
Grundy.....	2,549	02	51	3 50	174	77	259	.....
Hamilton.....	0,863	07	487	1 75	852	478	440	.....
Hancock.....	4,085					194	245	399
Hardin.....	2,073	02	41	1 50	61	22		139
Henderson.....	1,945					144		.....
Henry.....	4,789						570	.....
Iroquois.....	4,474	02	89	2 35	209		68	.....
Jackson.....	3,135	03	94	2 75	258		301	403
Jasper.....	6,444	10	644	1 70	1,095	307	1,057	.....
Jefferson.....	9,122	08	730	2 10	1,533	540	636	1,134
Jersey.....	6,196					215		.....
JoDavies.....	8,443	05	422	2 50	1,055	812	1,196	1,473
Johnson.....	3,052	05	153	1 50	229		810	218
Kane.....	12,372	08	371	2 25	835	715	2,495	.....
Kankakee.....	2,182							51
Kendall.....	8,790					1,490	1,394	1,343
Knox.....	10,319	05	541	2 50	1,352	699	564	1,384
Lake.....	88,519	02	1,730	2 05	4,584	971	9,560	.....
LaSalle.....	12,845	02	257	3 25	835	717	1,537	4,324
Lawrence.....	5,638	05	284	2 75	781	496	530	699
Lee.....	7,243	02	145	2 65	384	414	1,080	219
Livingston.....	3,456	02	69	4 00	276			.....
Logan.....	4,856	05	243	2 00	486	131	871	.....
Macon.....	7,037	03	211	2 85	601	318		117
Macoupin.....	19,765	03	593	1 75	1,039	719	1,720	2,302
Madison.....	7,984	03	239	2 85	681	358	354	704
Marion.....	11,500	03	345	1 00	345	158		486
Marshall.....	5,074	02	101	3 00	303			.....
Mason.....	443							.....
Massac.....	1,397					92		.....
McDonough.....	6,896					503	430	943
McHenry.....	44,968	01	450	2 35	1,057	1,724	3,990	829
McLean.....	19,894	04	796	3 15	2,507	833	755	1,574
Menard.....	5,713	02	114	2 00	228	875	126	164
Mercer.....	4,937	02	99	2 65	262	630	600	.....
Monroe.....	1,323							.....

Sheep killed by Dogs—Continued.

Counties.	No. of sheep assessed May, 1879	Per cent killed by dogs	No. killed by dogs.....	Yaine per head of sheep killed	Loss in 1879	Loss in 1878	Loss in 1877	Loss in 1876
Montgomery	10,674	05	534	\$2 75	\$1,468	\$1,124		\$828
Morgan	8,178					1,117	\$1,480	
Moultrie	4,451	15	668	2 00	1,336	403	152	
Ogle	9,129						1,149	911
Peoria	5,900	01	59	3 00	177	20		
Perry	2,852	01	28	1 75	49	176	240	
Piatt	3,495	03	105	2 75	289	564	612	152
Pike	11,557	04	462	2 50	1,155	1,540	1,651	1,007
Pope	7,107	07	497	1 75	870	507	828	
Pulaski	1,072	01	11	1 90	21	48		
Putnam	1,740	01	17	3 00	51	42	123	62
Randolph	6,903	05	345	2 75	949	1,23	1,362	
Richland	6,882	04	254	1 85	470	327	493	
Rock Island	2,185	10	218	2 50	545	322		
Saline	6,145						271	443
Sangamon	17,032	02	341	2 75	938	1,065	1,188	1,226
Schuyler	6,156	05	308	2 25	693	599	620	
Scott	5,647	01	56	2 50	140	119		
Shelby	14,935	02	299	2 00	598	506	418	
Stark	6,819	10	632	3 00	1,896	192		538
St. Clair	4,240	02	85	2 40	204	94	506	
Stephenson	8,572	04	343	2 50	857	270	1,242	
Tazewell	8,548	03	259	2 00	512	1,775	657	801
Union	3,657	03	110	2 75	3 2	464		
Vermilion	22,783	06	1,367	2 85	4,083	1,763	3,182	623
Wabash	3,729	03	112	2 10	235	3 38		
Warren	5,273	01	53	2 50	132	99	153	464
Washington	4,562	01	46	3 00	13	609	802	
Wayne	10,980	05	514	2 0	1,086	481	459	1,049
White	6,058	05	303	1 45	439	384	515	165
Whiteside	6,223	01	62	4 0	243	464		
Will	6,348	01	68	3 00	204	39		
Williamson	7,527	05	376	1 50	564	314	694	371
Winnebago	12,939	02	259	3 00	777	295	524	
Woodford	3,441	01	34	4 00	138		118	
Total.....	846,101	03	27,338	\$2 40	\$65,384	\$43,871	\$63,752	\$30,578

Drain Tile made in Illinois in 1879.

County.	Post Office.	Feet— 2 inch.	Feet— 2½ inch.	Feet— + 3 inch.	Feet— 4 inch.	Feet— 5 inch.	Feet— 6 inch.	Feet— over 6 in.	Total.
Brown.....	Mound Station.....	23,000	.....	42,000	40,000	24,000	18,000	13,000	169,000
Champaign.....	Homer.....	.....	.....	50,000	50,000	50,000	10,000	.....	169,000
".....	Mahomet.....	10,000	30,000	32,500	63,000	30,000	20,000	5,000	250,000
".....	Tolono.....	.....	.....	32,500	23,400	16,600	12,000	4,000	87,500
Christian.....	Pana.....	.....	5,000	36,000	8,000	4,000	.....	.....	48,000
".....	".....	.....	.....	20,000	3,000	12,000	.....	600	55,600
".....	Taylorville.....	4,000	.....	20,000	30,000	18,000	12,000	11,000	101,000
".....	Edinburg.....	30,000	.....	40,000	6,000	40,000	25,000	15,000	190,000
".....	Assumption.....	.....	3,000	10,000	8,000	8,000	1,000	.....	32,000
Coles.....	Lerna.....	.....	.....	21,000	60,000	30,000	30,000	5,000	149,000
".....	Charleston.....	.....	.....	36,000	90,000	80,000	50,000	10,000	180,000
".....	Mattoon.....	20,000	.....	2,000	4,500	3,000	3,000	1,200	14,700
".....	Mattoon.....	.....	.....	20,000	80,000	66,000	50,000	20,000	250,000
".....	Mattoon.....	.....	.....	16,000	48,000	48,000	24,000	24,000	160,000
Crawford.....	Robinson.....	6,000	.....	8,000	7,500	6,000	5,500	2,800	35,800
DeKalb.....	Hinckley.....	80,800	109,002	80,123	41,720	28,346	15,011	15,000	203,000
".....	Hinckley.....	14,775	19,804	41,065	16,128	16,626	12,579	7,528	238,000
".....	Sycamore.....	.....	23,000	75,000	65,000	30,000	40,000	8,000	200,000
DeWitt.....	Clinton.....	.....	.....	70,000	60,000	30,000	25,000	15,000	200,000
".....	Kenney.....	.....	.....	40,000	27,000	20,000	30,000	.....	117,000
".....	De Witt.....	.....	.....	35,000	30,000	25,000	20,000	12,000	142,000
".....	Farmer City.....	20,000	.....	16,000	16,000	12,000	6,000	6,000	71,000
".....	Waynesville.....	15,000	.....	175,000	122,000	32,000	26,000	15,000	600,000
Douglas.....	Naperville.....	100,000	130,000	22,500	122,000	10,400	12,400	7,700	193,200
DuPage.....	Normal.....	45,500	.....	16,000	14,700	8,000	3,000	.....	48,000
Edgar.....	Vermilion.....	.....	5,000	26,000	16,000	16,000	2,900	2,400	75,300
".....	Nevins.....	.....	.....	26,000	28,000	16,000	25,000	17,000	101,300
".....	Kansas.....	.....	.....	9,600	19,200	20,000	8,000	.....	82,000
".....	Paxton.....	15,000	.....	30,000	40,000	10,000	8,000	.....	103,000
".....	Paxton.....	3,000	.....	27,000	20,000	5,000	1,500	.....	54,500
".....	Gibson City.....	.....	.....	50,000	35,000	3,000	15,000	.....	105,000
".....	Farmington.....	.....	.....	40,000	40,000	85,000	30,000	.....	145,000
Gallatin.....	Ridgeway.....	.....	10,000	10,000	10,000	10,000	10,000	65,000	50,000
Greene.....	Whitehall.....	.....	.....	75,000	200,000	100,000	80,000	20,000	420,000
".....	Whitehall.....	.....	20,000	180,000	140,000	65,000	45,000	20,000	661,250
".....	Whitehall.....	.....	.....	327,450	200,000	71,500	51,000	11,300	130,000
".....	Athensville.....	.....	15,000	25,000	25,000	30,000	25,000	10,000	470,000
".....	Carrollton.....	.....	.....	280,000	80,000	20,000	3,000	2,000	96,000
".....	Barrow.....	.....	6,000	35,000	25,000	25,000	10,000	.....	125,000
Grundy.....	Morris.....	.....	25,000	40,000	30,000	20,000	2,000	.....	20,500
Hancock.....	Hamilton.....	5,000	4,000	5,000	4,000	2,000	2,000	.....	20,500

Henry.....	Geneseo.....	250,000	100,000	4,000	30,070	1,500	385,500
Iroquois.....	Milford.....	82,831	50,489	35,452	35,484	.....	239,784
JoDavies.....	Del Ray.....	150,000	50,000	25,000	15,000	.....	210,440
Knox.....	Galena.....	4,000	3,200	.....	.....	.....	9,200
.....	London Mills.....	45,000	23,500	20,000	1,500	.....	90,000
.....	.....	45,000	15,000	10,000	4,000	.....	74,000
LaSalle.....	Knoxville.....	103,893	22,106	12,710	3,556	2,000	154,540
.....	Utica.....	500,000	200,000	70,000	80,800	25,000	975,000
.....	Ottawa.....	45,000	30,000	12,000	10,000	10,000	127,060
.....	Dayton.....	24,721	12,157	5,933	5,348	4,856	61,331
.....	Earville.....	25,000	18,000	16,060	8,600	.....	97,000
.....	Marselles.....	40,000	10,000	10,000	7,000	.....	80,500
.....	LaSalle.....	39,150	29,300	24,000	15,000	.....	159,270
.....	LaSalle.....	25,000	50,000	11,000	8,000	.....	69,600
Livingston.....	Correll.....	900,000	100,000	40,060	30,000	40,000	170,000
.....	Fairbury.....	100,000	100,000	100,000	71,000	.....	615,000
Logan.....	Atlanta.....	80,000	40,000	30,000	10,000	3,000	188,000
.....	Lincoln.....	462,000	95,000	40,000	25,000	15,000	235,000
.....	Mt Pulaski.....	195,000	382,000	241,870	100,000	86,000	246,030
Macon.....	Decatur.....	150,000	140,000	110,000	85,000	80,000	302,000
.....	Decatur.....	80,000	70,000	70,000	60,000	12,000	565,000
.....	Decatur.....	50,000	120,000	90,000	84,000	52,000	332,060
.....	Decatur.....	15,000	12,000	32,000	30,000	.....	61,000
.....	Decatur.....	135,000	30,000	23,000	20,000	2,000	272,000
.....	Waukegan.....	30,000	30,000	17,000	10,000	12,000	122,000
.....	Blue Mound.....	35,000	40,000	20,000	15,000	18,000	182,000
.....	Blue Mound.....	40,000	50,000	20,000	20,000	5,000	194,500
.....	Blue Mound.....	120,000	100,000	90,000	50,000	10,000	105,000
Macoupin.....	Virden.....	120,000	100,000	30,000	25,000	10,000	150,000
.....	Palmyra.....	5,000	40,000	20,000	15,000	4,000	204,000
Madison.....	Alton Junction.....	30,000	45,000	20,000	20,000	.....	255,000
Marshall.....	.....	68,000	30,000	20,000	20,000	.....	200,000
.....	Varna.....	155,000	40,000	40,000	13,000	.....	153,000
McDonough.....	Bardolph.....	683,374	440,754	216,010	142,090	40,030	1,757,566
McLean.....	Bloomington.....	155,650	649,187	177,812	122,185	48,875	2,461,709
.....	Leroy.....	12,000	30,000	10,000	10,000	.....	102,000
.....	Saybrook.....	1,000	3,500	1,800	1,200	.....	13,000
.....	Padua.....	160,000	100,000	40,000	25,000	16,000	408,000
Menard.....	Athens.....	17,000	35,000	25,000	6,000	.....	93,000
.....	Petersburg.....	50,000	35,000	20,000	8,000	3,500	124,500
Mercer.....	Kettisburg.....	20,000	20,000	20,000	10,000	.....	40,000
.....	Aledo.....	90,000	80,000	50,000	10,000	5,000	20,500
.....	New Windsor.....	270,000	88,000	27,000	1,000	500	400,000
.....	Viola.....	10,000	8,000	5,000	1,000	6,200	235,000
Morgan.....	Woodson.....	45,200	30,500	33,800	10,000	3,000	131,400
.....	Chapin.....	5,700	40,000	10,100	7,000	4,000	105,000
Moultrie.....	Lovington.....	5,000	1,800	4,000	1,600	.....	11,200
.....	Lovington.....	32,000	5,000	7,000	5,000	23,000	23,000
.....	Farlow.....	9,000	11,000	9,000	7,000	68,000	68,000
Peoria.....	Brimfield.....	52,800	30,400	2,500	8,000	101,300	101,300

Drain Tile made in Illinois in 1879—Continued.

County.	Post Office.	Feet— 2 inch.	*Feet— 2½ inch.	Feet— 3 inch.	Feet— 4 inch.	Feet— 5 inch.	Feet— 6 inch.	Feet— over 6 in.	Total.
Peoria.....	Summerville.....		18,000	160,000	70,000	60,000	40,000	.....	348,000
Pike.....	Pittsfield.....	5,000	.....	123,000	40,000	37,000	37,000	6,000	290,000
".....	Milton.....	30,000	30,000	25,000	15,000	8,000	10,000	.....	104,000
Putnam.....	Perry, LaSalle county.....	30,000	38,000	25,000	15,000	8,000	7,000	.....	114,000
Rock Island.....	Carbon Cliff.....	2,000	5,000	100,000	40,000	8,000	30,000	.....	207,000
Sangamon.....	Cantrill.....	280,000	1,420,000	822,000	470,000	180,000	.....	72,000	3,357,000
".....	Auburn.....	5,350	.....	78,500	73,000	55,800	51,240	.....	70,800
".....	Springfield.....	1,500	.....	30,000	45,000	27,435	25,705	10,627	144,117
".....	Buffalo.....	.....	20,000	15,000	22,000	16,000	12,000	7,000	73,500
Schuyler.....	Buffalo Hart.....	.....	2,500	80,000	85,000	60,000	55,000	25,000	315,000
".....	Rushville.....	.....	20,000	13,000	75,000	14,000	12,000	6,000	62,500
Scott.....	Ray.....	.....	4,000	100,000	51,000	20,000	10,000	.....	134,000
".....	Winchester.....	.....	.....	100,000	40,000	80,000	10,000	4,000	188,000
".....	Alsew.....	.....	.....	100,000	60,000	15,000	.....	3,000	153,000
Shelby.....	Windsor.....	.....	.....	30,000	50,000	30,000	6,000	5,000	185,000
Stark.....	Wyoming.....	153,000	.....	30,000	35,000	8,000	.....	.....	80,000
St. Clair.....	Belleville.....	1,000	.....	200,000	115,300	93,400	75,800	13,000	649,500
Tazewell.....	Minier.....	.....	4,000	12,000	5,000	3,000	1,500	2,000	24,500
".....	Morton.....	.....	.....	66,487	39,000	22,666	16,560	25,120	168,833
".....	Delavan.....	.....	500	15,000	10,000	8,000	7,000	.....	52,000
".....	Hopedale.....	.....	.....	30,000	85,000	25,000	20,000	10,500	120,500
".....	Washington.....	.....	.....	100,000	40,000	85,000	25,000	6,000	206,500
".....	Washington.....	.....	.....	78,000	42,000	31,000	23,000	12,000	186,000
".....	Pekin.....	.....	.....	95,000	47,500	27,000	20,500	.....	190,000
".....	Pekin.....	.....	5,000	2,500	8,000	4,000	4,000	1,500	20,000
".....	Pekin.....	.....	41,350	61,236	16,581	10,000	8,113	6,491	107,421
".....	Potomac.....	.....	16,000	53,700	88,500	18,300	14,200	12,170	181,220
".....	Rossville.....	15,000	.....	22,000	20,000	10,000	12,000	5,000	84,000
".....	Vermilion Grove.....	.....	.....	30,000	25,000	15,000	8,000	8,000	96,000
".....	Indianola.....	.....	.....	10,000	40,000	40,000	30,000	.....	120,000
".....	Georgetown.....	1,500	11,100	18,000	48,000	18,000	14,000	50,000	103,000
".....	Alton.....	.....	2,200	12,000	5,300	6,000	.....	.....	36,300
Wabash.....	Monmouth.....	12,000	.....	70,000	35,000	1,400	600	.....	9,000
Warren.....	Graville.....	168,450	20,000	808,412	168,455	68,985	51,662	19,444	147,000
White.....	Eureka.....	8,000	.....	55,000	37,580	6,000	6,160	.....	808,418
Woodford.....	Low Point.....	15,000	.....	132,000	40,000	15,000	16,000	4,000	123,748
".....	Vermora.....	.....	.....	41,666	31,750	40,000	35,000	1,500	133,000
".....	Secor.....	4,000	.....	80,000	23,000	25,800	21,833	.....	232,500
".....	.....	.....	.....	.....	.....	14,000	9,000	.....	121,049
".....	.....	.....	.....	.....	.....	.....	.....	.....	136,600
Total.....	1879.....	1,477,924	2,919,289	11,906,818	7,993,317	4,275,200	2,885,436	1,536,632	32,039,616

1878	2,103,082	1,078,184	11,124,685	7,027,588	5,704,807	2,407,987	685,654	28,191,917
1877	1,500,384	.....	5,540,119	3,127,880	1,714,201	1,131,330	89,674	14,012,913
1876	978,638	.....	1,237,845	817,508	489,243	273,382	25,389	4,084,853

*Reports received since publication of drainage circular No. 37 increase the amount of tile manufactured in 1878.

+Includes 3¼ inch.

Price per 1,000 feet of Drain Tile at Factories, 1879.

County.	Post Office.	2 inch.	2½ inch.	3 inch.	3½ inch.	4 inch.	5 inch.	6 inch.	7 inch.	8 inch.	9 inch.	10 inch.
Champaign	Homer	\$10 00		\$15 00		\$25 00	\$35 00	\$45 00				
"	Urbana	11 00	\$13 00	15 00		25 00	34 00	42 00	\$50 00	\$75 00		
Christian	Tolono			15 00		25 00	34 00	42 00	60 00	75 00		
"	Pana		12 00	15 00	\$18 00	21 00	27 00	36 00				
"	Taylorville	9 00		15 00		21 00	30 00	40 00	45 00	65 00		
"	Edinburg	10 00		15 00		20 00	30 00	40 00	52 00	60 00		
Coles	Assumption		10 00	13 00		18 00	25 00	37 00	45 00			
"	Lerna			12 00		15 00	23 00	36 00				
"	Charleston			15 00		18 00	24 00	38 00	39 00			
"	Mattoon			12 50		15 00	27 00	38 00	45 00			
"	Mattoon	12 00		12 50		16 75	25 00	31 25		50 00		
"	Mattoon			12 50		18 00	25 00	35 00	43 00			
Crawford	Robinson			16 00		20 00	30 00	40 00		50 00		
DeKalb	Hinckley	14 00	13 50	15 00		20 00	30 00	40 00		60 00		
"	Hinckley	10 00	12 00	15 00		24 00	35 00	48 00	63 00	80 00	\$100 00	\$120 00
"	Hinckley	10 00	11 00	16 00		25 00	37 00	50 00	63 00	80 00		100 00
DeWitt	Stearns			10 00		17 00	25 00	32 00	40 00	50 00		
"	Clinton			10 00		16 00	22 00	32 00	40 00	50 00		
"	DeWitt			12 50		18 00	28 00	38 00	50 00	60 00		
"	Farmer City			15 00		20 00	30 00	40 00	40 00	45 00		
Douglas	Waynesville		9 00	12 00		18 00	25 00	32 00	40 00			
DuPage	Tuscola	12 00		15 00		20 00	30 00	42 00	45 00			
"	Naperville	10 00	12 50	15 00		27 00	38 00	50 00	65 00	75 00	90 00	
Edgar	Lomax		12 50	17 00		25 00	35 00	50 00				
"	Vermilion		12 50	15 50		21 75	31 25	37 50				
"	Nevins	10 00		13 20		19 20	25 20	39 00	45 00	51 00	60 00	75 00
"	Paris			12 50		18 87	31 25	40 75	56 25	68 70		
"	Kansas			15 00		20 00	30 00	45 00	45 00	50 00		
Ford	Paxton	10 00		15 00		18 00	25 00	35 00				
"	Paxton	8 00		10 00		15 00	25 00	35 00				
"	Gibson City			12 00		18 00	28 00	40 00				
Fulton	Farmington		10 00	15 00		25 00	35 00	50 00				
Gallatin	Highway		12 00	20 00		25 00	35 00	50 00				
Greene	Whitehall			10 00		17 00	26 00	38 00	48 00	72 00		150 00
"	Whitehall			12 00		18 00	26 00	40 00	60 00	75 00		
"	Athensville		10 00	12 00		19 00	29 00	40 00	65 00	85 00		
"	Carrollton			12 50		20 00	30 00	40 00	52 00	65 00		
"	Barrow		8 00	11 00		13 00	26 00	35 00				
Grundy	Morris		11 00	13 00		20 00	30 00	45 00				
Hancock	Hanilton	10 00		16 00		22 00	32 00	45 00				
Henry	Geneseo			15 00		20 00	30 00	40 00				
Iroquois	Millford	6 20		9 30		15 00	27 90	31 00				

Iroquois	Del Rey	\$15 00	\$20 00	\$32 00	\$12 00	\$90 00	\$110 00
Knox	London Mills	15 00	18 00	25 00	35 00		
"	Abington	15 00	22 00	30 00	40 00	\$80 00	
LaSalle	Knoxville	\$12 50	23 00	32 00	40 00	\$50 00	\$90 00
"	Utica	9 00	21 00	30 00	45 00	60 00	70 00
"	Ottawa	11 00	21 00	30 00	45 00	60 00	75 00
"	Dayton	13 50	21 00	30 00	45 00		
"	Earlville	15 00	23 00	33 00	44 00		
"	Marselles	14 00	23 00	30 00	45 00		
LaSalle	LaSalle	13 50	22 00	30 00	45 00		
"	Farm Ridge	13 50	21 00	30 00	45 00		
Livingston	Correll	11 25	\$17 00	30 00	45 00		
"	Fairbury	12 00	18 75	31 00	37 50		
Logan	Atlanta	10 00	21 00	28 00	38 00	50 00	
"	Atlanta	12 50	18 00	25 00	32 00	70 00	
"	Atlanta	14 00	20 00	30 00	40 00	55 00	
"	Atlanta	15 00	20 00	30 00	40 00	70 00	
"	Atlanta	16 00	20 00	30 00	40 00	55 00	
"	Atlanta	17 00	20 00	30 00	40 00	55 00	
"	Atlanta	18 00	20 00	30 00	40 00	55 00	
"	Atlanta	19 00	20 00	30 00	40 00	55 00	
"	Atlanta	20 00	20 00	30 00	40 00	55 00	
"	Atlanta	21 00	20 00	30 00	40 00	55 00	
"	Atlanta	22 00	20 00	30 00	40 00	55 00	
"	Atlanta	23 00	20 00	30 00	40 00	55 00	
"	Atlanta	24 00	20 00	30 00	40 00	55 00	
"	Atlanta	25 00	20 00	30 00	40 00	55 00	
"	Atlanta	26 00	20 00	30 00	40 00	55 00	
"	Atlanta	27 00	20 00	30 00	40 00	55 00	
"	Atlanta	28 00	20 00	30 00	40 00	55 00	
"	Atlanta	29 00	20 00	30 00	40 00	55 00	
"	Atlanta	30 00	20 00	30 00	40 00	55 00	
"	Atlanta	31 00	20 00	30 00	40 00	55 00	
"	Atlanta	32 00	20 00	30 00	40 00	55 00	
"	Atlanta	33 00	20 00	30 00	40 00	55 00	
"	Atlanta	34 00	20 00	30 00	40 00	55 00	
"	Atlanta	35 00	20 00	30 00	40 00	55 00	
"	Atlanta	36 00	20 00	30 00	40 00	55 00	
"	Atlanta	37 00	20 00	30 00	40 00	55 00	
"	Atlanta	38 00	20 00	30 00	40 00	55 00	
"	Atlanta	39 00	20 00	30 00	40 00	55 00	
"	Atlanta	40 00	20 00	30 00	40 00	55 00	
"	Atlanta	41 00	20 00	30 00	40 00	55 00	
"	Atlanta	42 00	20 00	30 00	40 00	55 00	
"	Atlanta	43 00	20 00	30 00	40 00	55 00	
"	Atlanta	44 00	20 00	30 00	40 00	55 00	
"	Atlanta	45 00	20 00	30 00	40 00	55 00	
"	Atlanta	46 00	20 00	30 00	40 00	55 00	
"	Atlanta	47 00	20 00	30 00	40 00	55 00	
"	Atlanta	48 00	20 00	30 00	40 00	55 00	
"	Atlanta	49 00	20 00	30 00	40 00	55 00	
"	Atlanta	50 00	20 00	30 00	40 00	55 00	
"	Atlanta	51 00	20 00	30 00	40 00	55 00	
"	Atlanta	52 00	20 00	30 00	40 00	55 00	
"	Atlanta	53 00	20 00	30 00	40 00	55 00	
"	Atlanta	54 00	20 00	30 00	40 00	55 00	
"	Atlanta	55 00	20 00	30 00	40 00	55 00	
"	Atlanta	56 00	20 00	30 00	40 00	55 00	
"	Atlanta	57 00	20 00	30 00	40 00	55 00	
"	Atlanta	58 00	20 00	30 00	40 00	55 00	
"	Atlanta	59 00	20 00	30 00	40 00	55 00	
"	Atlanta	60 00	20 00	30 00	40 00	55 00	
"	Atlanta	61 00	20 00	30 00	40 00	55 00	
"	Atlanta	62 00	20 00	30 00	40 00	55 00	
"	Atlanta	63 00	20 00	30 00	40 00	55 00	
"	Atlanta	64 00	20 00	30 00	40 00	55 00	
"	Atlanta	65 00	20 00	30 00	40 00	55 00	
"	Atlanta	66 00	20 00	30 00	40 00	55 00	
"	Atlanta	67 00	20 00	30 00	40 00	55 00	
"	Atlanta	68 00	20 00	30 00	40 00	55 00	
"	Atlanta	69 00	20 00	30 00	40 00	55 00	
"	Atlanta	70 00	20 00	30 00	40 00	55 00	
"	Atlanta	71 00	20 00	30 00	40 00	55 00	
"	Atlanta	72 00	20 00	30 00	40 00	55 00	
"	Atlanta	73 00	20 00	30 00	40 00	55 00	
"	Atlanta	74 00	20 00	30 00	40 00	55 00	
"	Atlanta	75 00	20 00	30 00	40 00	55 00	
"	Atlanta	76 00	20 00	30 00	40 00	55 00	
"	Atlanta	77 00	20 00	30 00	40 00	55 00	
"	Atlanta	78 00	20 00	30 00	40 00	55 00	
"	Atlanta	79 00	20 00	30 00	40 00	55 00	
"	Atlanta	80 00	20 00	30 00	40 00	55 00	
"	Atlanta	81 00	20 00	30 00	40 00	55 00	
"	Atlanta	82 00	20 00	30 00	40 00	55 00	
"	Atlanta	83 00	20 00	30 00	40 00	55 00	
"	Atlanta	84 00	20 00	30 00	40 00	55 00	
"	Atlanta	85 00	20 00	30 00	40 00	55 00	
"	Atlanta	86 00	20 00	30 00	40 00	55 00	
"	Atlanta	87 00	20 00	30 00	40 00	55 00	
"	Atlanta	88 00	20 00	30 00	40 00	55 00	
"	Atlanta	89 00	20 00	30 00	40 00	55 00	
"	Atlanta	90 00	20 00	30 00	40 00	55 00	
"	Atlanta	91 00	20 00	30 00	40 00	55 00	
"	Atlanta	92 00	20 00	30 00	40 00	55 00	
"	Atlanta	93 00	20 00	30 00	40 00	55 00	
"	Atlanta	94 00	20 00	30 00	40 00	55 00	
"	Atlanta	95 00	20 00	30 00	40 00	55 00	
"	Atlanta	96 00	20 00	30 00	40 00	55 00	
"	Atlanta	97 00	20 00	30 00	40 00	55 00	
"	Atlanta	98 00	20 00	30 00	40 00	55 00	
"	Atlanta	99 00	20 00	30 00	40 00	55 00	
"	Atlanta	100 00	20 00	30 00	40 00	55 00	

Price of Drain Tile—Continued.

County.	Post Office.	2 inch.	2½ inch.	3 inch.	3½ inch.	4 inch.	5 inch.	6 inch.	7 inch.	8 inch.	9 inch.	10 inch.
Sangamon ..	Buffalo Hart	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Schuyler ..	Ray	.....	\$8 00	\$10 00	.....	\$16 00	\$23 00	\$33 00	\$40 00	\$50 00	.....	.....
Scott	Winchester	.....	9 00	10 00	.....	16 00	25 00	30 00	45 00	65 00	.....	.....
Stark	Wyoming	\$10 00	.....	12 00	.....	20 00	25 00	40 00	.....	75 00	.....	.....
St. Clair ..	Belleville	8 00	.....	12 00	.....	18 00	25 00	34 00	45 00	50 00	.....	.....
Tazewell ..	Minier	.....	15 00	18 00	.....	25 00	35 00	45 00	50 00	60 00	.....	.....
"	Morton	.....	.....	12 00	\$16 00	20 00	30 00	40 00	55 00	70 00	.....	.....
"	Delavan	.....	.....	10 00	15 00	18 00	25 00	30 00	45 00	65 00	.....	.....
"	Hopeville	.....	9 00	12 00	15 00	18 00	27 00	38 00	45 00	55 00	.....	.....
"	Washington	.....	.....	15 00	15 00	17 00	23 00	33 00	50 00	60 00	.....	.....
"	Washington	9 00	.....	13 00	.....	20 00	25 00	35 00	50 00	65 00	.....	.....
"	Pekin	.....	.....	15 00	.....	20 00	30 00	40 00	.....	.....	.....	.....
"	Pekin	10 00	8 00	10 00	14 00	21 00	31 00	41 00	50 00	60 00	\$70 00	\$80 00
Vermillion ..	Pennac	.....	.....	10 00	17 50	22 00	35 00	52 00	45 00	55 00	.....	.....
"	Indian Grove	.....	8 00	13 00	16 00	18 00	27 00	38 00	45 00	55 00	.....	.....
"	Indian Grove	.....	10 00	12 50	.....	18 00	27 00	38 00	.....	60 00	.....	.....
"	Indian Grove	.....	.....	10 00	.....	18 00	27 00	38 00	40 00	.....	.....	.....
Wabash	Georgetown	.....	12 50	12 00	16 00	20 00	25 00	30 00	.....	.....	.....	.....
Warren	Monmouth	.....	.....	13 50	15 50	20 00	31 25	48 55	.....	.....	.....	.....
White	Grayville	10 00	12 00	15 00	20 00	21 00	30 00	45 00	.....	.....	.....	.....
Woodford ..	Eureka	.....	.....	13 00	18 00	22 00	33 00	40 00	50 00	.....	.....	.....
"	Metamora	8 00	.....	12 00	.....	18 00	28 00	38 00	.....	.....	.....	.....
"	Secor	8 00	.....	12 00	16 00	20 00	27 50	37 50	.....	.....	.....	.....

SHRINKAGE OF CORN.

By PROF. H. A. WEBER, *Illinois Industrial University.*

The results of an investigation on the loss of weight of corn during storage, made at the chemical laboratory of the Illinois Industrial University, under the direction of M. A. Scovell, M. S., Professor of Agricultural Chemistry, are given in the following.

To have some reliable data in regard to the comparative weight of corn in the fall and in the spring must be a matter of no little importance to the farmer and dealer in corn, and it is hoped that the results here given may be of general interest to the readers of this report.

The experiments were made with the following six varieties of corn grown on the University farm: Mammoth, Thomas, Murdock, Geneseo, Wright's Gold and Cameron.

In order to secure an average result ten ears of corn of each variety were employed. The corn was gathered on October 6th, and carefully weighed. It was then properly labeled and the whole placed in a room, which was entirely cut off from any artificial source of heat. On November 6th the corn was weighed with the following results:

Loss of weight of corn from Oct. 6th to Nov. 6th, in 100 parts.

Cameron.	Wright's Gold.	Geneseo.	Murdock.	Thomas.	Mammoth.
10.7	17.5	8.2	12.2	17.5	25.5

After weighing the corn it was put back into the room as before, and allowed to remain until November 29th, when it was weighed again.

Loss of weight of corn from Oct. 6th to Nov. 29th, in 100 parts.

Cameron.	Wright's Gold.	Geneseo.	Murdock.	Thomas.	Mammoth.
14.7	21	10.7	14.3	21.2	30.8

Finally the corn was allowed to remain in the room until February 28th, when it was again weighed with the following results:

Loss of weight of corn from Oct. 6th to Feb. 28th, in 100 parts.

Cameron.	Wright's Gold.	Geneseo.	Murdock.	Thomas.	Mammoth.
16.1	22.5	17.4	16.8	22.8	33

From this it will be seen that with the exception of one variety (Geneseo) the loss of weight in the last three months was less than in the month preceding. It was desired to know, in how much the singled ears differed in loss of weight. To determine this question, the ten ears of each variety were weighed separately when gathered on October 6th and again at the close of the investigation February 28th. The following tabular statement shows the results obtained.

Loss by weight of separate ears of corn from October 6th to February 28th in 100 parts.

No. of ear.	Cameron.	Wright's Gold.	Geneseo.	Murdock.	Thomas.	Mammoth.
1.	15	20	13	19	21	35
2.	14	23	23	19	28	33
3.	19	28	18	21	26	30
4.	9.5	18	19	17	27	30
5.	9.5	19	20	20	28	49
6.	9.6	20	14	19	23	35
7.	10	18	18	15	18	43
8.	10	21	14	16	22	29
9.	10	21	15	14	19	35
10.	9.5	17	14	16	14	36

From this table it will be seen that there is a wide difference in the loss of weight of the individual ears of the same variety, due no doubt to different stages of maturity. The same statement holds good for the "Mammoth" corn in comparison to the other varieties, although all of the ears were apparently matured and yielded good sound corn at the close of the investigation.

After the last weighings were made on February 28th, the corn was shelled and the weight of cobs determined. The results obtained are as follows:

Weight of cob in 100 parts by weight of corn in the ear.

Cameron.	Wright's Gold.	Geneseo.	Murdock.	Thomas.	Mammoth.
12.3	15	16	12.6	11	14.4

From this table it can readily be found by calculation, that for a bushel, or fifty-six pounds of kernels, a bushel of corn in the ear would weigh as follows:

Cameron.	Wright's Gold.	Geneseo.	Murdock.	Thomas.	Mammoth.
63.8 lbs.	65.9 lbs.	66.6 lbs.	64.1 lbs.	63 lbs.	65.4 lbs.

According to these figures it would appear that the weight usually taken for a bushel of old corn in the ear, namely seventy pounds, is too high.

In reference to the loss of weight which corn undergoes, as already shown, an interesting calculation can be made, which may serve as a guide to the farmer in disposing of his crop.

Suppose, that corn is selling early in the fall for thirty cents a bushel of *eighty* pounds, and a farmer wishes to keep his corn for two months and then sell it at the rate of *seventy-five* pounds to the bushel, he would have to expect the following prices in order to realize the same amount of money for his crop:

Cameron.	Wright's Gold.	Geneseo.	Murdock.	Thomas.	Mammouth.
33 cts.	36 cts.	31½ cts.	33 cts.	36 cts.	40¼ cts.

A similar calculation could be made in case the corn should be kept until spring and then sold at the rate of *seventy* pounds to the bushel, by taking into consideration the loss of weight as given for the period from October 6th to February 28th.

To conclude the experiments it was intended to make a chemical analysis of the six varieties of corn in their condition when last weighed. It was only possible, however, to analyze three of them, and these analyses are here given:

Chemical composition of corn (kernels).

	Cameron.	Wright's Gold.	Mammouth.
Water.....	14.67	13.62	14.61
Starch.....	63.02	66.87	63.09
Sugar.....	3.00	2.07	1.87
Albuminoids.....	9.78	10.64	10.50
Oil.....	3.92	3.13	3.84
Fiber.....	1.94	2.09	3.07
Ash.....	1.22	1.63	1.62
Total.....	99.45	99.85	98.60

LIVE STOCK MATTERS.

By N. H. PAAREN, M. D., *Veterinarian of the State Agricultural Department.*

TRANSMISSION OF QUALITIES.

Every one conversant with animals knows, that not only their natural, but many of their acquired qualities, are transmitted by the parents to their offspring. Hereditary tendency may be defined as a strong proneness in the constitution to assume the same characteristics that existed in one or both of the parents. It will be perceived that this definition will comprise the mental as well as physical peculiarities—the excellences as well as the defects in the constitution—as we take it for granted it is a conceded point that numerous satisfactory examples can be adduced of excellence and talent as well as weakness and vices of the parents being transmitted to their offspring. Animals may be born free from disease, but with peculiar textures in certain localities of such imperfect kind as to become morbidly affected by causes which would produce no effect whatever on limbs or textures soundly or narrowly developed. Whenever any special organisms undergo a change—such, for instance, as bone becoming soft, or cellular membrane becoming scirrhus—such changes depend entirely upon organic combination; some special elements have been withdrawn, or have been introduced into it; for ought we know, the carbon, oxygen, hydrogen and various earthy matters have varied in their proportions, and been so arranged that they have created the developments nature is silently but irresistibly working out, and this, too, wholly and entirely irrespective of any peculiar conformation whatever as a predisposing cause.

It is known by all physiologists that the body we possess to-day is an entirely different body from that we possessed a few years ago, and that every atom of the structures of which this body is composed to-day will be totally and entirely changed in a few years hence—if we are still in existence. Decay and reproduction are processes constantly going on in every living body; it is nature's process, an inflexible condition of vitality going on throughout the entire constitution. The peculiarities of constitution continue to operate in their own secret, silent, mysterious, but never varying courses. It is very questionable to our mind whether any known method of treatment can possibly prohibit the development or natural progress of any morbid condition in its legitimate locality; we are strongly impressed with the idea that it is a pre-existing germ, as certain as the oak is contained in the acorn. Nature's laws are wise; physical defects must assert themselves; the creator has no power to change the inherent conditions of its nature; nature can fully accomplish her task, but she stops always at the limit of her destination; the inalienable attribute was stamped upon the fetus *in utero*, and cannot be changed by human invention. We may define diseased conditions in this connection. Acute and chronic diseases, properly speaking, belong to a different type from those of

an hereditary origin. Acute diseases are generally referable to extraneous and violent causes, and are of comparatively short duration; chronic diseases are generally referable to the continuance of causes inadequate in themselves to induce acute diseases; but hereditary diseases are referable to no apparent cause—they are a natural condition in the development of the animal.

The maxim "like begets like," is a rule having very extensive sway, yet, as propagation is the work of two parents, the respective influence of the one or the other is a matter involving considerable diversity of opinion, and presents anything like a certain conclusion being arrived at. In the breeding of the animals, if the object be to modify certain defects, by using a male or a female in which such defects may not exist, we cannot produce this desired alteration; or rather, it cannot be equally produced in all the offspring, but can only be attained by weeding out those in whom the objectionable points are repeated. Many breeders, finding their attempts at improvements frequently baffled, cling with superstitious tenacity to the doctrine of purity of blood, believing it to be the only course by which true safety is to be found. Now, pure breeding, which, when carried to an excess, is called in-and-in breeding, has its advantages as well as its disadvantages. Its friends observe, with great force, that when we have in breeding reached great excellence, it is folly to risk the loss of such excellence by means of crossing; and the more so as the defects of a parent may disappear in a first or second and reappear in the third or fourth generation, "breeding back" as it is commonly termed. Again, it is urged that great excellencies can only be perpetuated by union with similar excellencies, and beyond all this that there is a certain amount of advantage from an unstained lineage—from the very possession of breed, as it is designated. The objectors to in-and-in breeding urge, that by so doing we engender weakness of constitution, diminution of size, hereditary diseases, and also a tendency to barrenness; but it is argued in reply to such objections that they occur from want of sufficient care in weeding out defective animals, whether as respects constitution or size. Unless the choice is extremely confined, most of the evils of pure breeding can be avoided by careful selection and vigorous weeding. High breeding, or pure breeding, refers to very different desiderata in different breeds. In the thorough-bred horses, it signifies a very high development of the muscular and nervous systems, accompanied by such mechanical structure as, when united with it, constitutes the highest manifestations of speed and endurance. In the ox, however, it implies very different qualities, viz., early and rapid growth—the development of flesh or muscle on the parts most prized for food—a disposition to lay on fat; these, with the possession of the smallest amount of bone consistent with strength and health, are the principal characteristics of a well-bred animal. Instead of the highly nervous temperament of the race-horse, we have here a quiet, lazy disposition; in fact, a lymphatic temperament, by the influence of which the digestive organs reign supreme and convert, for the public benefit, a given quantity of food into the utmost amount of flesh and fat. The same observations apply with equal force to the sheep, and in a still stronger degree to the pig. A well-bred pig is the incarnation of everything indolent and lethargic, and the very antipodes of that high organization and nervous development which belong to a high-bred horse.

TREES, NOXIOUS PLANTS, ETC.

By PROF. T. J. BURRILL, *Botanist Illinois State Board of Agriculture.*

THE CATALPAS.

Within the last few years these trees have been brought into prominent notice through the efforts of several gentlemen impressed with the importance of attention in our country to the cultivation of trees for timber. Chief and foremost among these philanthropists is E. K. Barney, of Dayton, Ohio, who has for many years collected and published information upon the subject. He has caused to be printed for gratuitous distribution, two most interesting pamphlets.

I write "these trees" advisedly, believing that the two kinds now known as the common and the hardy, or the eastern or southern and the western, are really different species. The wonder is that botanists had not long ago detected this difference and that in our manuals of botany the two had not been given under specific names. At Urbana, Ill., in 1880, the one came into flower the first week in June; the other was nearly three weeks later, being in full flower about June 24th. They differ in other respects quite as much as well recognized species of oak, ash and cotton-wood; much more than described species of willow. But *Catalpa bignonioides*, Walt., is the only name to be found in the ordinary books, devoted to the flora, in whole or part, of North America. In 1853 Dr. Warder, of Ohio, noticing the showy flowers of some trees at Dayton, Ohio, and supposing these to be a variety of the well known species with this peculiarity, named them variety *speciosa*. It now appears that this large flowered kind is the common indigenous form found in the states of Indiana, Illinois, Kentucky, Tennessee, Wisconsin, Arkansas, etc., and botanists will doubtless henceforth write (*Catalpa speciosa*, Warder, as a distinct species. Contrasted with *Catalpa bignonioides* the flowers are earlier and larger; the seed pods are larger; the bark is darker and does not scale off, giving quite a different aspect to the trunk of a mature specimen; the growth is more erect causing a better bole and finer head, and the tree is not so liable to be killed by the severities of winter. Added to all this the seeds are so characteristically different that anyone can readily distinguish them. In *C. bignonioides* they are narrow and the fringe of the wing is close and pointed; in *C. speciosa* the larger seed has a wider wing, terminated at each end with a broad fringe of softer hairs. Unfortunately most of the cultivated Catalpa trees in Illinois has been of the tender species, and, although the wonderful durability of the wood has long been known, its liability to winter-kill and its irregular, crooked growth has prevented its being planted for timber.

Throughout the southern half of our State it is commonly grown as an ornamental tree, doubtless more on account of its conspicuous flowers than for any other reason. In open, exposed situations where it is frequently killed back by frost, certainly this is not in form a beautiful tree.

But the hardy species is rarely if at all killed in any portion of our State. South of 40° in Illinois it may be confidently relied upon, and is to be commended to every one who wishes an easily propagated, readily transplanted, rapidly growing tree of splendid and characteristic appearance, and of great value for its wood. I pass nearly every day a tree of this kind transplanted, two years from seed, three years ago. It was once broken off by cows, but is now (June, 1880) fourteen feet high. This specimen stands by the sidewalk in the street. In cultivated ground a growth of eight feet in a season is not uncommon. A lawn tree on the grounds of Arthur Bryant, Sen., Princeton, Ill., from seed forty years ago, is nearly three feet in diameter of trunk. I found by counting the rings of a common catalpa grown in blue grass sod as a lawn, that it had increased in diameter of trunk fourteen inches during the last twelve years. The tree was nineteen years old. Among the rapid growing trees the catalpa is remarkably peculiar for the great durability of its wood. It is light and rather soft, but resists decay almost equal to any timber known. Fence posts show little signs of decay after forty years use. A specimen of wood before me was taken from a log of which there is good evidence of its having lain on the ground during one hundred years. Only the outer portions of the log was crumbled away by decay, leaving eighteen inches of sound wood. On the other hand—the only evidence of this kind known to me—some stakes used for grapes about three and a half inches in diameter, of the common or tender variety, grown in the nursery of the Industrial University, rotted off in two years. These were from seed and were six years old. They were cut in April and soon afterward thrust into the ground for the grapes.

The wood is easily worked, susceptible of a fine polish, and of a chestnut-like grain and color. It is said to last longer than white oak for railroad ties, and holds the spike without difficulty.

Will planters be careful to secure the hardy tree, *Catalpa speciosa*? Reliable nurserymen now offer them in quantities and at low rates.

WHITE AND GREEN ASH.

These trees are known to science as *Frazinus Americana* L., and *Frazinus viridis*, Mx. They are sufficiently distinct to be readily recognized by persons not botanists, when an opportunity is presented for comparison; but I find that in Illinois, as elsewhere, the latter is often taken for the former. They are both common trees with us, though rarely occurring in nature together. This latter circumstance renders the mistake spoken of more frequent. Some of our nurserymen have made unintentional but great blunders in this respect; propagating and selling the green for the white variety. They are by no means equally valuable trees, for all purposes. The white ash attains much larger size, and is in every way more desirable as a timber tree. No other ash, if indeed any other native deciduous-leaved tree, can compare favorably with it for planting on our ordinary soils, if wood for valuable farm use and for manufacturing is sought.

For a few years the green ash grows nearly as rapidly as the white. In propagation it has the advantage of readily starting from seed kept quite dry during the winter, and committed to the earth in this condition, whereas the white ash seed requires more careful handling. These are best kept mixed with sand, in a cellar or buried in the earth. The young shoots of the green are much more slender, and though vigorous and thrifty, the tree never presents the robust, stalwart appearance of the white. In twenty years the latter gains over its relation, in height and size of trunk, 25 to 50 per cent., and in after years still more. In ornamentation, both are decidedly valuable trees in our State; but each has its special merits. The green is well entitled to the term, *beautiful*, as contrasted with the *picturesque*. The comparatively slender growth, smooth bark, the naked, clear, light-green leaves, both sides nearly alike, and its smaller size, give it characteristics which might claim the poetical title, in absence of the birch, "the lady of the woods." The white ash, in all but the leaves, has a much more rugged appearance, but the denser foliage and the contrast of the dark-green upper leaf surface with the whitish under side, make it an admirable shade tree, especially suitable for groups and avenues.

So far as I have been able to ascertain the wood of these two trees is much alike and too well known to require description. For many purposes the larger trees are decidedly preferable, the quality being the same. The black ash (*Frazinus Sambucifolia*, Law.) is more common northward. This is the only one of our species having leaflets without footstalks, hence it may be identified by this characteristic alone.

SPANISH OAK—(*Quercus falcata*. Nx.)

In the southern part of the State, especially in the bottom lands of the Mississippi and Ohio, this oak is quite abundant, and often called by the lumbermen, Turkey oak. In the region named the tree attains large size, the wood is firm and strong, with finer grain than it appears to have further southward. Compared with the red oak, it is much superior, where firmness, elasticity and durability are required. But large quantities of timber from this tree, cut and sawed for manufacturing, have been sold for white oak. In one instance falling under my own notice, a large order for white oak, from a firm manufacturing agricultural implements, was filled in great part with sawed material from this tree. In another a contractor had cut of Spanish instead of white oak, a thousand dollars worth of railroad ties, and had delivered a considerable portion of them before the discovery was made. In this instance the company refused to receive the substitute and the contractor pocketed the loss.

In these instances there was not to my knowledge intentional dishonesty, but the mistake, if such, furnish the reason for this note.

The Spanish oak belongs to the red oak class and would seem sufficiently distinct from the white or burr oak. From these it differs especially as follows: The lobes of the leaves are long and narrow and are conspicuously bristle-pointed; the acorn is scarcely half an inch long, and seated at maturity on twigs two years old; but it must be acknowledged that the tree in winter looks much more like the white oak than any other of the red oak group. The bark of a large trunk really does resemble that of its more esteemed relative.

NOXIOUS PLANTS.

A *weed* is not inaptly defined as, "Any plant which obtrusively occupies cultivated or dressed ground to the exclusion or injury of some particular crop intended to be grown"; or "Plants which tend to take prevalent possession of soil used for man's purposes, irrespective of his will." The same plants may be very useful under some circumstances and very troublesome or detrimental under others. The study of weeds is a very curious one, calling up questions of vitality and distribution, of history and development not readily answered by the ablest investigators. The very troublesome weeds in one section of a country are seldom the worst ones in another. In a great number of instances the chief pests are importations—foreigners which may or may not have been conspicuously annoying in their native localities. It is impossible to predict what plants will become notably troublesome when introduced in new regions. A simple little American plant, *Anacharis Canadensis*, scarcely maintaining itself in our streams, was taken to England by a botanist, and, escaping into the brooks and rivers, so blockaded the water courses that the name bestowed upon it after the introducer, "Babington's curse," is expressive if not just. In the same way the common edible water cress, taken to New Zealand, has choked their water courses to such an extent that to clear one of them annually requires an expenditure of \$1,500.

According to Dr. Schoenburek, of South Australia, a variety of our common field oat (*Avena sativa*, var. *melanosperma*) has become surprisingly injurious. He says: "The black oat has the most notorious pre-eminence of all the introduced weeds, and the effects of the intruder most ruinous to the farming community. * * * Thousands of acres of arable land, especially such as have been in cultivation some years, are totally ruined for the purpose of wheat-growing, by the black oat." Yet, of a very closely-allied plant, Dr. Brewer, years before the above was written, said: "The wild oat (*Avena sterilis*) is found from Palestine to the Atlantic, but I never heard that it is of any value there. But in America, it clothes the plains of California and western Mexico; also parts of South America and the island of Juan Fernandez. Great areas, of hundreds, or even thousands of square miles together, are seeded with it, and millions of animals feed on it."

A wood sorrel (*Oxalis cernua*), similar to the little bulbous plant known as wood sorrel with us, and common but unobtrusive in our fields, was taken from the Cape of Good Hope to Australia, as a garden plant, about 1840. The bulbs were sold for about five cents apiece; but it has now escaped from cultivation and gained an alarming foothold in the fields. It seems to be nearly impossible to destroy it.

Who could have foretold these results? Why is it that an unimportant plant, transported to untried regions, suddenly and surprisingly adds to, or detracts from, the wealth of a great country? The reasons are complex, and vary with every species and its surroundings, but are assuredly worthy of attentive investigation.

I have cited these as a few examples among hundreds of well-known instances, for the purpose of calling attention to the especially troublesome weeds of Illinois. It cannot be taken for granted, that because a plant is a pest to the garden or farm in one locality, it is or may be equally so in another. Our general assembly passed an act to aid in the eradication of Canada thistles; and wise, indeed, are such enactments, if founded upon substantial information. In this case, it is my opinion that our law-makers were prompted to specialize this pest, among the many we have, from their knowledge of it in the Eastern States. In the rich prairie soils of Illinois it spreads very slowly, or is even in some cases gradually exterminated by other vegetation. The law appears to have been poorly executed; and in one instance the commissioner, in his third report, advises no further taxation of the township, though he admits some plants still exist.

Canada thistles, (*Cirsium arvense*), are now growing in many probable hundreds of places in our State; but in few instances have they attracted much attention, notwithstanding the notoriously bad reputation following them from the east. They can be and ought to be exterminated; so can and ought to be several other of these plant nuisances. The cockle-bur (*Xanthium strumarium*) merits ostracism from the State as it is now banished from many farms. The Indian mallow (*Abutilon avicennae*) is in some places a worse weed than the Canada thistle, but may be assuredly driven from our domain without great sacrifice. I am aware of its cultivation for its fiber but this need not prevent its extermination as a weed. The same may be said of any of our large growing weeds; of the smaller ones it cannot be so confidently asserted that within the limits of practical performance, they may be effectually eradicated.

But I here chiefly wish to impress the important truth theoretically admitted by most thoughtful persons, but practically ignored by hundreds of our cultivators of the soil, that *weeds spring from seeds* or some substitute for them. There is positively no such thing as spontaneous production of these highly organized plants, whatever scientists may conclude as to the origin of living microscopic beings. The ragweeds in the fields after harvest come from seed in the soil having been borne by former ragweeds like themselves. The purslane in the garden puts up its tiny seed-leaves from the shining coat of the minute seed of the year before. Neither is it necessary to be driven to the hypothesis that seeds may exist for eons of time in the soil, to account for the surprising growth we sometimes witness of plants not previously noticed. Doubtless some seeds do retain their vitality during several years, when buried deeply in the earth; but it is more certainly known that the seeds of troublesome or injurious weeds rarely last longer than two years in such situations. Germination or death takes place within one year in the great majority of our weed seeds. Their immense numbers, their diverse and effectual modes of distribution, their production under unfavorable circumstances upon dwarfed plants not likely to be noticed, amply account for their phenomenal appearance.

The number of seeds produced by most weeds is surprisingly great, sometimes more than half a million from one plant, or enough if all grow to produce a plant on every square yard of one hundred acres of land. According to Professor Brewer, a roadside mullen of medium size produced 800,000 seeds. We sometimes wonder what the little snow birds find to eat during the winter time, but when we understand what they search for and eat seeds of most weeds, we cease to wonder after studying the production of the latter. Were not these plants a hundredfold more prolific than our ordinary cultivated species, few of them would be known as noxious at all.

Such seeds are in various ways blown about by the wind, they are washed away in currents of water, carried by animals and unwittingly scattered by man. Darwin took "three table-spoonfuls of mud from three different points beneath water, on the edge of a little pond; this mud, when dried, weighed only six and three-fourths ounces. I kept it covered up in my study for six months, pulling up and counting each plant as it grew; the plants were of many kinds, and were altogether *five hundred and thirty-seven* in number." A little mud adhering to the feet of birds may thus be the means of transporting numerous seeds. Others are swallowed and, passing the digestive system uninjured, are widely disseminated. Young plants of wild cherry and elder are now springing up thickly in the experimental forest tree plantation of the Industrial University, from seeds dropped in this way by birds. Even insects carry many seeds attached to their bodies, or voided with their excrement. Man is by no means least, if here mentioned last, as an agent in the dissemination of seeds of weeds. There are 2,582 species of plant—enumerated in Gray's Manual of Botany, intended to include flowering plants north of Virginia and east of the Mississippi, and of these 805 are introduced from abroad; 278 of them from Europe. (Cultivated plants are not enumerated.) Man has brought these and taken others in return. Weed seeds are mixed with those of

cultivated plants and widely transported. The packing material for goods frequently contains them. Some are attached to clothing or the hair-imported animals. Railroads are efficient disseminators. Numerous plants are coming to us from the plains of the West, and those of the East are appearing on the ranches in the fertile valleys of the Rocky mountains. These are but a few of the many ways by which seeds may be disseminated and produce the appearance of a spontaneous origin of the plants.

Some of the grasses are among our worst weeds. I have not, however, heard of the notorious couch or quitch grass (*Elymus repens*) being very troublesome in our State. It is found by botanists often enough, but is seldom recognized by those who in other days laboriously toiled to exterminate it farther east. The fox tails (*Setaria viridis* and *S. glauca* and the crab grass (*Panicum sanguinale*) are often troublesome enough. These are annuals and are only propagated by seed. Hence may be eradicated by not allowing seed to ripen for one or two years.

Clean culture this year certainly will make clean culture easier next year. The botanist knows no exception to the rule. The complete eradication of weeds is no easy matter, but is practical in some cases; in others great reduction may be made and then by striking early the young plants may be killed with little labor.

FUNGI ON LIVING PLANTS.

AN UNKNOWN CLASS OF PLANTS.

Fungi, as a class of veritable plants, with accurately defined specific characteristics and established life histories, are known to comparatively very few persons. The older opinions of scientific men are still current among most people not students of natural history. Mushrooms and toad-stools are looked upon as excrescences, formed through disorganization or reorganization of the substances upon which they are found. Old logs, in some way unaccounted for by the opinionated, become changed, by the action of external agencies upon the inert matter, into the fleshy or corky forms so familiar to everyone.

The common moulds upon bread, cheese, fruits, preserved meats, etc.; the mildews and weather stains upon linen, freshly-cut wood and other substances; rusts and smuts on wheat, corn and most other plants, are popularly supposed to be peculiar changes in the materials themselves, or deposits from the air. The term, *fungus*, is still used in medical literature, to denote pathological growths of the animal tissues. Even botanists, not special students of the lowest classes of plants, often have little comprehension of the vast number of true species, their widely diverging forms and wonderful life histories. This is especially true of our own country. There are but two herbariums belonging to public institutions in the United States, possessing any considerable number of fungi. In the collections made under the auspices of the governmental surveys in the west, we may as well say nothing has been done for this portion of the flora. The number of American botanists who have published original accounts of the development of any fungous species in our great land, can be counted upon the fingers of one hand. In our own State there are not more than this number known to the writer who have made or are making herbarium collections of, or systematic notes upon these plants.

Perhaps it may be said, all this shows that the field is an uninviting one, that the objects have little practical importance or scientific interest, not worthy of study nor capable of attracting the lover of nature's diversified productions. Were this the case, I ought to beg pardon on bended knees for presenting this paper. It may be someone will feel like requiring it of me, but relying upon the good nature of those to whom it is addressed, I venture on.

NUMBER AND IMPORTANCE.

The fact is, fungi are an important group of plants—economically, scientifically and educationally. The number of species inhabiting temperate zones is many more than the total number of flowering plants. This statement may be a surprise to some good botanists; I am quite sure it will be to those who are not botanists. To the latter, a dozen, a score, or perhaps a hundred different kinds of fungi, may be known to exist; while trees, shrubs, herbs of all descriptions, grasses, weeds, etc., covering the earth, are well nigh innumerable. Now, it is certainly true, that the species of fungi, so little known, surpass in number the great aggregate of all the green-leaved plants, with which we are ordinarily so well acquainted. In Great Britain about three thousand species of fungi have been described, against one thousand three hundred and seventy-one species of flowering plants, and the number of the former existing in the United States is no doubt proportionally as great. There are in Illinois not less than 25,000 fungous species, probably many more, and most of these species are very rich in individuals. They occur everywhere, and may be collected at all seasons; in woods and open lands; in country and in town; outdoors and indoors; in the earth, the air, the water; on decaying materials and on living plants and animals. Their germs are floating in the air which at this moment we breathe; they are in our clothing, and upon the surface of our bodies; they are growing in our mouths, and luxuriating upon the partly digested remains of our last meal.

In general, their province is to destroy. Recent investigations have abundantly and conclusively proved that organic substance preserved from the destructive influences of fungous growths, are as stable and lasting as the materials of the inorganic world. Wood

has no more inherent tendency to decay than gold or granite. The fluids and flesh of animals do no more spontaneously decay than does old wine in old bottles. Left to themselves, they exist indefinitely unchanged. Since the time of Spalanzini (1766), the careful experiments of Hoffman, Pasteur, Tyndale and others, fully warrant these statements, and confirmation is always at hand in our every-day domestic processes. We could milk pans to kill the germs and prevent the growth of microscopic organisms; we hermetically seal fruit jars, not so much to exclude the air, as many suppose, but to exclude fungous spores.

We can in some sense estimate the practical importance of these low organisms, for better and for worse, when we think of the change which would now take place in nature, were the familiar decompositions of organic matter everywhere stopped. What would a forest become after some hundred years of accumulations? But it is now also ascertained, thanks to the French chemist, Joden and his followers, that in many of these processes of decay, the free nitrogen of the air is absorbed and combined with hydrogen to form ammonia, an essential element of food for ordinary plants.

Within the last few years it has been conclusively proved that soil thus gains in richness through the ever active microscopic living organisms which fertile soils contain. This is technically called nitrification of the soil. During dry times alternating with rainy periods, a whitish efflorescence may often be seen on dark colored earth. Through the agents here spoken of the alkaline elements are made to combine with the free nitrogen about them, and as fresh portions of the soil are exposed by tillage, the combinations are facilitated. Who would have dreamed that the value of plowing, harrowing, etc., depended in any measure upon the benevolent activities of minute plants, too minute to be seen without the assistance of a powerful magnifier! Again the fermentations held to be of such importance in the arts, as in bread making, the manufacture of vinegar, beer, wine, etc., are wrought by these ubiquitous and potent, though little credited agents.

Short and meager as these statements are, we cannot comprehend their meaning without at least acknowledging that there is more than the mere specific number of fungi to invite study and research. They are of immense practical utility. Though we view their operation from the standpoint of our highest knowledge and most liberal estimates, we can yet scarcely imagine the economical importance to us of these neglected, but industrious workers. There is, however, one other general subject connected with them which must in its direct bearing still more attract attention. *They cause diseases in plants and animals.* This paper is not in any sense a contribution to the germ theory of the various infectious and contagious diseases of man and his domesticated animals, though one who investigates the operations of fungi would naturally lean towards the germ idea. Aside from these, there are well established instances of serious diseases of man and animals caused by known fungi. The works of Kuckenmeister,* Robin,† Leidy‡ and others, show, at least to some extent, how many. Of man and the higher animals, these are mostly affections of the skin. Among lower animals, fish and insects seem to be greatest sufferers. Everyone has seen dead flies sticking to the walls, windows, etc., by their probosces in autumn, more or less surrounded by a whitish powder. They are the victims of a fungous parasite, which, first growing from without into the tissues of the body, finally burst through the surface and bears its white spores outside. Silk-worms are notably destroyed by two such enemies. In these cases it is sufficient to dust the animals with the spores of the destroying fungus in order to produce the disease. Insects in a state of nature are thus sometimes killed in great numbers. These latter stand charged with many depredations upon plants, but plants, we see, in some instances, turn the tables upon them. The white grub-worm is often found with one or two long, root-like growths issuing from its mouth, a fungus killing great numbers of these pests of the farm and garden. In 1874 chinch bugs were exceedingly destructive to wheat throughout the northwest, but in 1875 it was difficult for entomologists to find a few specimens for their cabinets, owing to a disease, probably fungoid, which swept them off during the latter part of the first named year. The subject of killing noxious insects through the use of special fungous spores is now receiving considerable attention as it well deserves.

Turning now to the diseases of plants, it may be very confidentially asserted that great as are the ravages of insects upon our cultivated crops, fungous growths do much more injury. The rusts, smuts, mildews, rots, blights, etc., annually rob Illinois of untold thousands of dollars. The rust on wheat alone takes from our farmers more than all the tax collectors secure many times over. The blights and rots of the fruit plantations would, if exactly and certainly expressed in dollars and cents, frighten cultivators from their business. Because the agents are hidden from the unaided eye, the destruction is charged to the climate or perhaps to the dispensations of providence. This paper is written with the humble hope of relieving to some small extent these agencies from their burden of improperly attributed disaster.

THE REAL CAUSE OF DISEASE.

It has been often and clearly shown that many fungi found upon living plants are not simply the concomitants, but the real and true causes of the diseases observed. It is by no means always necessary as a beginning, that the air or the soil should be in specially peculiar conditions, or that the supporting plant should be, in any unnatural sense predisposed to the detestful influences of the parasite. These are old views and though still true for some cases, have been radically modified through the labors of Prevost, DeCani

*The Animal and Vegetable Parasites of the Human Body. Translated from 2d German edition. London, 1857.

†Histoire Naturelle des Vegetaux Parasites; qui croissent sur l'homme et sur les animaux vivants. Paris, 1853.

‡A Flora and Fauna Within Living Animals. Smithsonian Contributions to Knowledge, vol. 5, 1851.

dolle, Berkeley, Kuhn, DeBary, Cooke, Max Cornu and many others, whose testimony cannot be gainsaid. Besides any one possessing the cardinal virtues of microscopy, patience and perseverance, may observe for himself the origin and progress of disease, as the immediate results of the germination of the spore and growth of its product. The conditions may be favorable or unfavorable to the plant, or its parasite, one or both at the same time; but immunity does not always come from a full healthy condition of the host. Indeed, sometimes this simply furnishes the more and better nourishment for the parasite, which becomes equally vigorous in consequence. The known conditions having more or less control are exceedingly complex and in many instances specifically peculiar. The following may be taken as examples rather than a summary of the knowledge upon the subject. The writer is indebted to Professor DeBary of Strasburg, Germany, more than to any one else for many of the instances cited. Full reference cannot be given in this sketch; a considerable number of the facts given are experimentally known to myself.

TEMPERATURE.

Spores of very many species germinate at a very low temperature; those of the wheat smut (*Ustilago carbo*) at plus 32° F. or 31° F. *Penicillium* and *Mucor*, common moulds, at 34° to 42° F. The upper limit for these last is about 110° F. Their vegetative threads or mycelium grows between 36° F. and 140° F., attaining its maximum at from 71° F. to 80° F., according to Welsner. Immersed in water most fungous spores are killed at its boiling temperature, but some in neutral or slightly alkaline solutions resist for a time an increase of nine degrees. Some very low forms are capable of still further resistance. Dry, many spores will stand a temperature for a short time of 266° F.

MOISTURE.

All fungi require for their development a liberal supply of water. Some have the ability to absorb powerfully from the substances on which they grow. *Morulus lacrymans*, causing 'dry rot' in hollow trees, damp rooms, etc., reduces wood to dry powder while its own tissue is dripping wet. To most species a damp atmosphere is more favorable than immersion in water. Some spores germinate as readily in water as in moist air (*Polyaetis*), but cease growing after a short time. Others refuse entirely to germinate in water. Those of the potato rot (*Peronospora infestans*) and others behave quite differently when sown in water and on moist surfaces. In the former case each divides into a half dozen active bodies called zoospores, which swim rapidly like minute animals for a time in the water. These, under favorable circumstances, germinate just as the spore itself does when simply moist. Others will not germinate in pure water (*Rhizopus nigricans*, *Ascomphora mucicola*), but readily do so when soluble organic substances, as gum, fruit juices, milk, etc., are added. Cornu's experiments with spermatia showed similar peculiarities. These minute bodies, produced by many fungi and lichens in vast numbers, had not previously been known to germinate at all. A little mucilage from a gummed label accidentally gave the clue to the requirements. He afterward succeeded in causing germination to take place at will. I am not aware that others have confirmed the experiment. The germinal tubules of such as are emitted in perfectly pure water attain not infrequently some hundred times the length of the spore itself though of course supplied with nutriment only from the spore.

NUTRITION.

Many curious phenomena are connected with the development of fungi on different food substances or in different amounts. In general each species has its own peculiarities which cannot, with the least certainty, be predicted from experiments upon its congeners. A common blue mould (*Penicillium*) can be grown on solutions of arsenic and copper sulphate, but it is still doubtful if any of the poison itself is absorbed. *Rhizopus nigricans*, a common black mould, forms beside the usual spores on its minute stalks, a special kind called *zygospores*, on bread and many fruits; but though the vegetation is luxuriant, on expressed fruit juices the zygospores are not formed. Another mould (*Syzygites megalocarpus*) grows freely enough, and produces myriads of ordinary spores on many substances, but forms zygospores only on living, fleshy mushrooms. A grayish mould common in greenhouses (*Polyaetis*) flourishes upon living vegetation, in damp places but produces nutlet-like masses known as *sclerotia* only when an abundant food supply is present and the temperature low, as upon squashes in cellars. Numerous leaf parasites pass the first portion of their existence on living vegetation, but perfect their fruit only on the fallen leaves, in winter. (*Melampsora*, *Rhizizma*, *Sphaeria*.) More peculiar still is the alternation of growth and fruit products, in different stages of development, upon widely different supporting plants. In some the alternation is essential; in others simply permissible.

According to DeBary, the wheat rust (*Puccinia graminis*) alternates upon grasses and the barberry; and a similar rust (*Puccinia coronata*), common on late-sown oats and autumn grasses, passes in a similar manner a stage of its existence on leaves of buckhorn. These different forms—two, three, or even four—have each been described and classified, in different families or orders, usually with no suspicion at first of their connection. Thus the wheat rust, accepting the above as true, has been known under three generic and specific names. The red rust was *Trichobasis rubigo-vera*; the barberry form, *Aecidium berberidis*; and the ultimate, winter stage, *Puccinia graminis*. The spores of the latter germinate in the spring, and give rise to several secondary spores, which, so far as announced in their germination, only penetrate the barberry leaves, upon which the *Aecidium* is soon afterward produced. The spores of the latter, falling upon the growing wheat, enters its tissues, and produces, first the red (*Trichobasis*) spores, and later, upon the same mycelium the black spores (*Puccinia*). The *Trichobasis*, or red rust spores, germinate immediately on the wheat plant, giving the well-known rapid spread to the disease. In our country it cannot possibly be true that this pest to the farmer is confined, during one essential stage of its existence, to the barberry; there are not enough barberry bushes for this. Doubtless there are other net-veined leaved plants upon which it develops.

On the leaves of the common May-apple (*Podophyllum*) there may be often seen a fungus so abundant as to give the under side of the leaves a decidedly yellow color. If some of these leaves are gathered when the parasite mentioned is quite mature, but with nothing else to be found by microscopic investigation at the time, and are slowly dried in a botanical press, a dark-colored rust (*Puccinia aculeata*) is developed. The latter, more or less regularly, follows the former, under natural conditions; but to do this in the press is certainly very remarkable.

When more is known of this peculiar alternation of form and growth, we may be better able to explain the apparent contagious or infectious character of many plant diseases and gain our rightful mastery over them.

Aside from this alternation in the process of development most parasitic fungi are confined to a single supporting species, or to very closely related species. The potato-rot fungus (*Peronospora infestans*) occurs on potatoes, more rarely on tomatoes, and still more rarely on the related bitter sweet. The lettuce mould (*Peronospora gangliiformis*) is only known on lettuce and an allied weed; *Puccinia aculeata* only on the May apple. It is probable that fuller investigation will reduce the species upon which the same parasite grows as much as they will reduce the actual number of true species of the fungous parasites, so that the number of true species of plant dwelling fungi will not be diminished though some now considered distinct are proved identical. Those which inhabit only the surface of plants, without penetrating the tissues (*Erysiphe*, *Antennariet*) show less closeness of choice, *Erysiphe lamprocarpa* grows on a score of species belonging to at least half dozen orders. *Phylactinia guttata* has been found on plants belonging to nine orders of flowering plants! These are exceptions rather than common examples. In such cases it is not rare that the parasite is much more fertile on certain of the inhabited species. Often the ultimate or perfect fruit is produced on one of the several plants on which other spores are developed. The American grape mildew (*Peronospora viticola*) grows upon all kinds of grapes, but, so far as known, only produced the winter spores (*Oospores*) on varieties of our wild summer grape (*Vitis aestivalis*), upon which they have been found by Dr. Farrow of Harvard University. In Europe the perfect fruit (*ascospores*) of the so called *Oidium Tuckeri*, the mildew of the foreign grape, has not been detected on the vine. Doubtless some other plant gives it sustenance.

DURATION OF VITALITY.

The mycelium of some parasitic fungi is perennial. *Podisoma macrospus* grows perennially on twigs of the red cedar; forming during the season hard, brown balls of stored material, attaining an inch or more in diameter. In spring-time the spores are produced in these balls, and when well moistened with rain they are sent out, together with a profusion of yellow, gelatinous substance, becoming very conspicuous on the tree, and supposed by many to be the proper fruit of the cedar. In this condition they are as conspicuous as ripe apples on the orchard trees. *Ectoascus deformans* causes distortion and death to peach leaves, in spring and early summer. The young leaves have a blistered appearance, become curled and stiff, and finally die and drop off. But the bark and newly-formed buds of young twigs is also penetrated by the mycelium, where it survives the winter, and, spreading through the young leaves, perpetuates the disease. Affected twigs are easily distinguished, hence careful winter pruning is an efficient remedy in this case. But in most instances only the spores of leaf fungi live over winter. If there is more than one kind of spore produced, one only survives. (*Oospores*, *Tetraspores*, etc.) These cannot be made to germinate in artificial culture in autumn or winter, but readily do in spring. The summer spores of those species producing them, distinct from the winter-surviving fruit, germinate at once, and usually retain their vitality but a few days. Those of the potato-rot (*Peronospora infestans*) kept in dry air, do not germinate after about twenty-four hours, but with care, under favorable conditions, may be kept three weeks. Those of the American grape mildew germinate within two hours, and cannot be ordinarily preserved more than one day. The spores of maize smut (*Ustilago maydis*) live two years, some related species three and a half years.

PROCESSES AND PECULIARITIES OF GROWTH.

Notwithstanding the almost universal opinion that the spores of fungi or something arising from them, gain entrance to the plant tissues by absorption with water through the roots and thence circulate with the water or sap through the vegetative structures, the plain teachings of vegetable physiology shows this to be entirely without foundation in fact. The watery fluids moving in the plant tissues have no channels comparable to the veins of animals for its passage. The ducts of the wood are ordinarily filled with air, not with water; even the cells of the wood itself through which the current chiefly takes place are free from water when the movement is most active. Circulation, if it can be called such, really takes place through the substance of the cell walls, in which no microscope ever made can show the least evidence of pores. But there is better testimony than this, that the popular idea of which we speak is an error—manufactured, as we say, out of whole cloth. No one in his senses, who has carefully watched the germination and subsequent development of a grain of corn into a full grown plant, gaining in order roots, stem, leaves, flowers and fruit, will then ascribe the origin of this growth, in and out of the soil, to the invisible molecules of matter, dissolved, and passing through the soil in water. The seed itself is the germ, the outside matters and forces which, though essential to its growth, can never manufacture the plant without the vitalized seed. Now the germination and growth of these parasitic fungi have been, and can be, watched as closely as that of the corn. The spores of a fungus in germination invariably—though in some cases not without first dividing into several germinating bodies (*Zoospores* of *Peronosporae*; sporidia of *Pucciniae*, etc.)—put forth a tube which develops into the thread-like vegetative system of the resulting plant, and from that time forth there is no break or discontinuance of structure until the fruit is again produced. He who watches by the aid of a microscope this growth from the spore into a fully developed plant after its kind, producing spores like that from which it started, can no more doubt what he sees of the fungus than he can of the corn. The evidence is the same in each case and in each case is positively conclusive.

Germination *always* takes place outside of the supporting plants. In the case of the white moulds on living leaves (the Erysiphe) the mycelium never penetrates the tissues at all, but by applying peculiar organs (hausteria) close upon the epidermis, draws its nourishment through the latter. And some of these species are exceedingly destructive, as one of our grape mildews, the hop blight, cherry-leaf blight, etc. Most commonly the germ tubes of the spores penetrate the epidermis through the stomates or breathing pores. This is the case with all summer spores of the species producing the well-known rusts (Uredinæ). Others reach the inner tissues by directly piercing the epidermis, (the sporidia of germinating Puccinia, most Peronosporæ).

Sometimes a thick epidermis appears to act as a partial barrier, but in most cases the germinal tubes pass through the thickest as readily as through the thinnest coating. The growing end becomes exceeding fine, pushes itself through the outer cell wall, swells into a rounded organ, and receives the protoplasmic contents of the spore, transferred through the fine, penetrating portion. Afterward, this slender tube perishes and the entrance is obliterated. No wound is apparently made, no microscopic opening left. Once through the epidermis, the mycelium ramifies through the inner tissues, commonly between the cells, but very often piercing their walls through and through. In the case of those which enter the stomates, the process so far takes place, in numerous instances, upon any plant, but the mycelium is not further developed except within the proper host. Penetration through the epidermis, on the other hand, rarely takes place upon any but the supporting species. The spores may germinate, but no further development ensues. By either method penetration takes place in any part of the supporting plant, or only in certain organs or conditions. The white rust of plants belonging to the mustard family (*Cystopus candidus*) enters only through the stomates of the seed leaves at the time of germination. Smut of wheat and oats pierces the epidermis, but only of the germinating plantlet. The potato fungus enters indifferently through the epidermis, or its stomates, yet only upon the leaves of the plant.

The mycelium may remain localized, spreading but little beyond the place of germination, as in wheat rust (*Puccinia graminis*), or it may completely occupy the whole tissue of the plant. Wheat rust (*Ustilago carboi*), starting with the young wheat plant, spreads throughout its tissues, and fruits at length in the ovaries. The potato fungus spreads from the leaves which it first penetrates, through the tissues of the stem to the tubers in the ground; and all this by as regular a process of growth as the passage of roots through the soil.

The place of fruiting is as peculiar as the penetration—in most species definite, on the under or upper sides of the leaves; on the stem, on the flowers or particular portions of them; on the fruit, etc. A few in this respect are irregular. The maize smut fruits upon any part of the plant above ground, but is usually found on the stem or ear, rarely on the leaves. On the other hand, the nearly related wheat smut fruits only in the ovary of the grain.

CLASSIFICATION.

No one can study fungi without becoming convinced that notwithstanding some strange anomalies in development *species* are as well fixed and as definitely reproduce their kind as in higher plants or animals. Though certainly not impossible, hybrids, as far as my information goes, have not been discovered. It would therefore appear that nothing but our ignorance of the existing species and their life history prevents a correct natural classification of these low organisms belonging to the vegetable world. Many attempts have been made in this direction and not without good results, but no one pretends to have fully solved the problem. For beginners who wish to analyze their collections, it is certainly preferable to use the semi-artificial classification based upon form, and introduced by Fries, of Sweden, a half century ago. This is the classification adopted by the authors of the English works. When once acquainted with the plants, if only by form, and with the names they bear, the more natural systems of continental authors, DeBary, Sachs, etc., based upon life history, will be well worthy of study; their use will be conducive to better information, serving much more reliably the purposes of drawing theoretical conclusions and of gaining practical results.

In the *form* classification there are six great groups, usually called orders, readily distinguished for the most part by the unaided eye or by slight enlargement. In the names of these orders the part common to them all, *mycetes*, is from an old term, meaning, fungus. The first portion of each name comes from the Greek, and the equivalent word in our language is given below. The six orders are as follows:

1. Hymenomycetes (Membrane).
2. Gasteromycetes (Stomach).
3. Coniomycetes (Dust).
4. Hyphomycetes (Mould).
5. Physomycetes (Bladder).
6. Ascomycetes (Ascus, a spore sack).

The mushrooms and toad stools may be taken as the type of the first. These bear their spores on a membranous structure spread over the gills, minute pores, etc., usually found on or in the underside of the fruit body. Probably the only one of these believed to destroy living plants is that causing the disease known as Rotten Root, especially injurious to the pear in southern Illinois. This has not to my knowledge, been positively identified, but there is good evidence that the destroyer belongs in the order now named.

To the second order belong our common puff-balls, whose rounded shapes suggested the name. The "club-root" of the cabbage is the only disease of cultivated plants with which we are familiar, known to be due to fungi of this order.

The word "dust", used in the name of the third order refers to the fact that the spores themselves are the only conspicuous part of the plant. Here we have multitudes of species parasitic upon living vegetation, forming the smuts and rusts. Usually the vegetative

parts of the plants can only be seen by the use of the microscope, while the spore masses are more or less prominent. The wheat rust and smut, the corn smut are familiar examples.

The fourth and fifth orders include the moulds so frequent and abundant everywhere. In the first of these the spores are borne externally upon the fertile threads, usually in powdery masses; in the second they are produced in little bladder-like sacks or rounded spore cases. The organisms belonging to these two families are to the unexperienced eye usually very similar, and are almost uniformly known as moulds. The Hyphomycetes, however, contains numerous species destructive to higher plants, among which the noted potato rot fungus holds a conspicuous place. The so-called black mildews also belong to one or the other of these orders.

The sixth order contains a great number of species having widely different appearances and habits. Many grow upon decaying vegetation and are frequently of considerable size, whilst there are multitudes of parasites on living plants and animals. The morels and truffles are well known edible species. Among those injurious to cultivated plants, there may be named the white mildews on the hop, the grape, the cherry and the apple, that causing the 'curl' of peach leaves and the black-knot of plums. Quite recent investigations tend to show the one to which is attributed the rot of the grape berry, also belongs to this order. Here also are found those which grow on grub-worms and other larvae.

The yeast plants, of which, contrary to the usual opinion, there are several, and the group containing the minute organism known as bacteria and their allies, do not very clearly belong to any of the foregoing orders, but fall into the last rather than elsewhere. In the strictly natural classification they each constitute an independent order.

TECHNICAL TERMS USED IN THE FOREGOING PAPER:

Ascospore.—An *ascus* is an oblong sack containing several bodies capable of germination. These latter are called *ascospores*. According to some authors the term *sporidia* is a synonym. All the plants belonging to the sixth order named in this paper have, as their ultimate or perfect fruit, ascospores.

Haustoria.—Organs of various shape upon the tissue of fungi performing the office of suckers. In many cases they are disc-like expansions, closely applied to the surface from which nutriment is obtained.

Host.—Here used to denote the plant upon which the fungus lives.

Mycelium.—The threads composing the tissue of fungi. In some cases these thread-like cells are simple or branched, and remain separate from each other; in others they are compacted into felt-like masses, and may even become by adherence a solid structure. The total vegetative part of fungous plants consists of these slender filaments.

Oospore.—A product of a fertilized cell capable of germination, but usually only after the lapse of some months. Comparatively few fungi produce them, and these all bear other reproductive germs.

Spermatia.—Exceedingly minute organisms, whose office has not been really understood, but now believed to be capable of germination and of reproducing the plant under peculiar circumstances. They occur in countless numbers and may thus effectively aid in the distribution of the species. Very many parasitic fungi produce them, but they are not found upon all, neither are they considered the perfect fruit of any.

Spore.—A specialized cell of any kind capable of germination. This is a very general term, analogous to seed as applied to the reproductive product of flowering plants. The spore, however, differs essentially from the seed. In the latter there is an embryo, or plantlet, more or less fully formed; in the former, nothing of the sort exists. The product of germination in case of the fungous spore is always, at first, a single, elongated cell, usually called the germ-tube.

Sporidia.—A term loosely applied to the contents of a spore-sack or to small reproductive bodies formed upon the germinating threads or tubes of some fungi.

Supporting plant.—A synonym of *host*; a plant upon which the parasite lives.

Teliospore.—The winter-surviving organism of some parasitic fungi; producing sporidia upon its germ-tube. The sporidia may afterward germinate and reproduce the plant.

Zoospore.—A spore having the power of moving in water. These are furnished with one or more hair-like organs, which, by rapid vibrations, propel the minute germ through the drop of dew or other liquids in which they are produced. Few kinds of fungi produce them, and in these they appear to occur only under special conditions. Under favorable circumstances they greatly aid in the dissemination and reproduction of the species.

CANADA THISTLES.

The act in relation to Canada Thistles has been observed to a very limited extent.

The following are the only reports made to the Secretary of the State Board of Agriculture for the year 1879.

To the Supervisor of St. Joseph Township, Champaign County, Ill.

The undersigned, commissioner of Canada Thistles for said St. Joseph township, would respectfully submit the following report of his acts and doings in the exercise of his office:

I have found three (3) distinct patches of Canada Thistles growing in this township, as follows:

1. One patch of about one-tenth of an acre growing near the center of the SE. $\frac{1}{4}$ of the SE. $\frac{1}{4}$ of section No. twenty-seven, on pasture land
2. One patch of about one-tenth of an acre near the SE. corner of the NW. $\frac{1}{4}$ of the NW. $\frac{1}{4}$ of section No. thirty-four part of which is on enclosed land.
3. One patch of about two rods square near the center of the NW. $\frac{1}{4}$ of the SW. $\frac{1}{4}$ of section No. twenty-six, on pasture land.

As to when and how said thistles were introduced I have been unable to ascertain. I received my appointment about the 10th of September, at which time the thistles were so far advanced in growth as to have ripe seed on them. I therefore, as soon as possible proceeded to mow the thistles off close to the ground, raked and scraped them together and burned them, treating each patch alike as to the mowing. I have also, on one patch, tried the experiment of applying salt on the roots of said thistles. I am unable to state, at this time, what the result of my labor will be; this will be manifested another year. I have made diligent inquiry, and have been unable so far, to find any other patch of Canada Thistles in the township. I have expended two and one-half days' time on said thistles since my appointment, making a total expense of five dollars.

All of which is respectfully submitted,

L. D. BREWER,
Commissioner of Canada Thistles.

ST. JOSEPH, October 23, 1879.

COOK COUNTY—TOWN OF LEMONT.

In compliance with chapter 18, section 6, Revised Statutes, I have to submit the following report:

The following tracts are infected by Canada thistles: A patch measuring about two rods square, 33 feet by 33 feet, growing on property owned by the Singer and Talcott Stone Company, between their quarry and DesPlaines river.

A patch measuring twelve (12) by fifty (50) feet on the Brown estate, north of the M. E. church.

A tract measuring about three quarters of an acre on property occupied by the Illinois Stone Company, outside the village limits.

A patch on the same property, measuring ten by twenty feet, on what is known as Sherman Hill. A patch about half an acre in extent on property of Peter McCanna.

Several stalks on D. C. Skelly's property, adjoining the patch on McCanna's property.

Three patches on the line of the St. Louis, Alton and Chicago R. R. Company, outside the village, varying in extent from ten to twenty feet in length by six feet in width.

A tract on Edwin Walker's property, known as the "Kerry Patch," about two rods square. A patch about two rods in length by one rod in width on Mrs. Lacey's property, adjoining Boyer's quarry, inside the fence and between the fence and highway.

One plant on Sproull's property, about three miles outside the village.

All the above named patches are at present in vigorous growth.

Since instructions received, Sept. 9th, 1879, from the Board of Town Auditors, to discontinue proceedings concerning the extermination of Canada thistles, I have been informed that some are growing on the highway adjoining John Gannon's farm, on the line between Palos and Lemont.

No information could be obtained concerning the time and manner of the introduction of Canada thistles into this township.

In accordance with instructions from the Board of Town Auditors, no steps have been taken towards eradicating Canada thistles in this township, except to notify persons on whose lands they were growing to eradicate them, with results as indicated in this report. H. M. Singer informs me that he cut his thistles and applied salt to the roots. N. J. Brown grubbed out his thistles three or four inches deep. The others already mentioned cut theirs down several times. The case of one plant growing on Sproall's property, mentioned above, is noticeable, as showing the treatment adopted in this instance. I am informed that Canada thistles have been growing on this property during three or four years past, in which time the present occupant has regularly, every spring, plowed and harrowed the infected tract, afterwards pulling out the roots and burning them. This method, which has evidently succeeded in almost completely exterminating thistles on this tract, I deem the best and only practicable method at present known, and presents a parallel to the method adopted by farmers in England, where infected land is treated in precisely the same method with entire success.

CORNELIUS HARKINS,
*Commissioner of Canada Thistles, for Lemont Township,
County of Cook, Ill.*

DuPAGE COUNTY—TOWN OF DOWNER'S GROVE.

I herewith hand you my report as commissioner of Canada Thistles for the year 1879, for the town of Downer's Grove. There were growing in the town last year twenty-eight patches of thistles of which six have been entirely killed, to-wit: Patrick Consodine (one), R. Lyman (one), William Oldfield (one), C. G. Austin, Sr. (one), John Mackender (one), and John T. Oldfield (one). Of new patches there are seven, to-wit: John Oldfield (1), O. J. Stough (1), James Craigmile, Jr. (1), Henry Bridgeman (2), and Sylvester Smart (1).

No thistles have been allowed to go to seed in the town this year.

Of those destroyed some were killed by cutting off close to the ground and salting, and some by mulching. Green sloop hay, or flax straw are both good mulching.

I have had thistles growing in the highway thoroughly mulched.

I have spent seventeen days.

A. McMILLIAN,
Thistle Commissioner.

SECRETARY'S REPORT.

To the Illinois State Board of Agriculture:

Your attention has been called to the greater part of the work of the Department the past year in the reports of the several committees heretofore considered, to-wit: The committee on printing, museum, library and crop statistics.

WORK OF THE OFFICE.

The efforts of the Board of late years in directing the attention of the public through the statistical reports of the Department to the vast resources of the State, its increasing annual productions, as well as its undeveloped mineral wealth, are having the desired effect in attracting the attention of the better classes of producers and manufacturers from other States, which result can but promote the interests of all the industrial classes.

That this statistical work is fully appreciated by the reading public is attested by the increasing number of letters received each succeeding year, asking for statistics relating to the crops and various resources of the State, from producers, dealers and consumers, of this and other States, as well as capitalists seeking investments.

The steady growth of the work of the Department of late years is indicated in the correspondence, which shows an increase of over fifty per cent. in 1879, as compared with 1876, while the other work of the office has increased in a corresponding ratio.

The number of letters sent out the past four years, as shown by the letter books, is as follows, to-wit: 1876, 1,982; 1877, 2,798; 1878, 2,824 and in 1879, 3,007.

FAT STOCK SHOW.

This new and important work of the Board has largely increased the clerical labor of the office and requires fully as much time in making arrangements and compiling the report as is usually given to the State Fair.

The results of the two exhibitions of Fat Stock, judging from the correspondence of the office, the comments of the press, and the expressions of the general public, have been of the greatest value to breeders and feeders, and have added largely to the reputation of the Board as endeavoring to meet every requirement of a progressive agricultural people.

The introduction of the report on the Fat Stock Show contains extended comments on the facts developed by the exhibitions.

There were 2,000 copies of the report of the last Fat Stock Show published and the edition was none too large to meet the demands therefor, which extended to all the states—the provinces of Canada and even to Great Britain.

The favorable comments of the press and prominent authorities in such matters as to the completeness of the report are very complimentary to the Board, and the forthcoming report will contain additional statistics and comparisons, of value to all interested in the production and consumption of the best quality of meat.

The report of the last Fat Stock Show is well under way, and it is suggested that the Board indicate the number that should be published in pamphlet form.

COUNTY AGRICULTURAL ORGANIZATIONS.

The utility of County Fairs as educational organizations, and as material aids in the rapid development of agriculture, is so firmly impressed upon the minds of our enterprising people in nearly all the counties in the State, that no reasonable effort is spared each year, to secure the most creditable exhibition of all that pertains to an Agricultural Fair, as well as to insure the financial success of the organizations.

The high appreciation of the many benefits resulting from these annual exhibitions is attested by the continued liberal support they receive at the hands of our most substantial and progressive citizens.

Eighty-nine counties in the State have Agricultural Fair Associations to the number of 119, of which 109 held Fairs in 1879. The majority of these societies are in a highly prosperous condition.

The following counties have no working agricultural organizations, viz.: Alexander, Bond, Calhoun, Cook, Clinton, Hancock, Johnson, Madison, Monroe, Pulaski, Saline, Scott, Washington and Woodford.

The societies in the counties of Christian, Effingham, Hamilton and Lee, held no fair in 1879.

In accordance with instructions of the Board an effort has been made to interest the people of the counties named above as having no active organization, and there is reason to believe that some of them will organize and complete arrangements for holding fairs in 1880. Already meetings have been held for this purpose in the counties of Johnson, Hancock and Madison.

Two county agricultural boards were organized during the year 1879, to-wit: The White County Agricultural Board, at Carmi, May 6, and the Tazewell County Agricultural Board, at Delavan, July 12.

Successful fairs were held in 1879 by these two organizations, and the officers and all interested therein are encouraged to make more earnest efforts to increase the extent and attraction of future exhibitions.

Fair associations were organized and fairs held at Bushnell, McDonough county, and at Homer, Champaign county, the present year, and the satisfactory results attained will stimulate these new societies to enlarge their operations for succeeding fairs.

The law passed by the last General Assembly relating to the forfeiture of the legal rights and privileges of county agricultural boards failing to hold Fairs for three successive years, will have a good effect

in opening the way for new organizations under the management of parties more deeply interested in the promotion of agriculture.

MUSEUM.

The number of samples and specimens added to the museum of the department during the past year is not as large as desired or expected, considering the efforts of the Board in this direction.

The correspondence of this office with foreign nations gives encouragement to believe that during the new year the exchanges of non-perishable agricultural products from abroad will add very largely to the attractions of the museum.

The accumulated samples and specimens have been arranged in the cases to the best advantage by the curator, Miss Bell Bradford, who has filled that position since July 1st, 1879, to the entire satisfaction of all concerned, besides rendering much valuable clerical service in the general office work of the department.

LIBRARY.

The Library has been in frequent use by the general public during the past year, and, as a library of reference on agricultural subjects, is quite complete and is frequently consulted by persons from various parts of the State.

The contemplated arrangement of the books, with the aid of a printed catalogue, will add largely to the convenience of the reading public, and save the office force much time now required to hunt up books desired.

The store room, in the basement, under the office, recently assigned to the department by the Secretary of State, will give room for the storage of the Annual Reports of the Board, and as soon as this storage room is fitted up, the library shelves will be relieved of the Annual Reports, and thus make it possible to systematically arrange the books comprising the Agricultural Library, for the greater convenience of all interested.

SUGAR AND SYRUP FROM CANE GROWN IN ILLINOIS.

The success that has attended the efforts of a large number of parties in this State, in the making of sugar and syrup of a superior quality and at good profits, from amber and sorghum cane, as well as the number of inquiries for information on the subject seem to make the matter of sufficient importance to require some effort on the part of the Board towards the collection of statistics relating to the growing of the varieties of cane best suited to the soils of this state, as well as the extent of the crop and the success of the experiments made.

ILLINOIS FAIRS.

The Agricultural Fairs of the State have been one of the most efficient means for promoting the interests of all engaged in rural

pursuits. The prosperity of all classes depends upon the success attending the efforts of the agriculturist, and to no other agency is the producer more indebted for the introduction of improved methods of farming and the best breeds of stock than to the State and county Fairs.

During the past decade the fairs of the State have offered nearly two million dollars (\$1,878,743 00) as premiums for the best exhibits of live stock, farm products, farm machinery, etc., the results of which can only be realized by a personal examination of the many highly improved farms and superior herds and flocks in various sections of the State, that compare favorably with the best in any of the older States.

The following table gives the number of entries, premiums offered and paid during the past ten years by the fairs held in the State so far as reported:

Years.	No. Fairs reported.	No. of entries.	Am't premiums offered.	Am't premiums paid.
1870	56	39,188	\$108,145	\$85,154
1871	49	51,873	117,381	92,428
1872	51	51,793	105,896	82,989
1873	70	63,105	151,324	112,860
1874	89	89,703	208,481	145,401
1875	87	98,879	263,476	192,903
1876	93	96,648	230,260	154,043
1877	94	113,925	230,300	168,237
1878	90	108,483	224,907	154,116
1879	93	120,634	241,083	175,900
Totals .....	.....	833,791	\$1,878,743	\$1,383,529
Average .....	.....	83,379	\$187,874	\$136,352

FAIR EXHIBITIONS.

The following report of the exhibitions of the fairs of the State for the past four years indicates a very healthy growth of this interest, which is keeping pace with the rapid development of the agriculture of the State.

The increase in the number of entries during the last four years has been from 96,648 in 1876 to 120,634 in 1879, or nearly twenty-four thousand (23,986).

This increase in the number of entries has not been confined to any special department; but has been quite general, the live stock classes showing as rapid growth as the other interests fostered by the fair organizations.

Departments.	1876.			1877.			1878.			1879.		
	Amount of premiums paid to each department.....			Amount of premiums offered to each department.....			Amount of premiums paid to each department.....			Amount of premiums offered to each department.....		
	Number of entries in each department.....			Number of entries in each department.....			Number of entries in each department.....			Number of entries in each department.....		
A—Cattle.....	\$37 682	\$22 697	5 783	\$38 823	\$25 875	4 789	\$23 704	\$28 078	4 789	\$39 891	\$25 992	6 303
B—Horses and equestrianism	44 895	31 057	14 923	45 843	36 253	14 101	31 956	44 517	14 101	43 498	33 613	15 167
C—Horses and asses	9 670	8 134	2 266	9 749	8 577	1 064	2 869	5 006	1 064	4 927	3 750	4 991
D—Sheep.....	18 848	12 446	3 703	18 751	13 071	8 459	6 430	9 148	8 459	10 124	7 650	4 363
E—Hogs.....	5 686	4 463	7 502	5 757	4 463	6 325	12 458	18 011	6 325	17 678	12 458	6 043
F—Poultry.....	10 179	3 654	5 014	10 613	3 728	5 220	3 813	6 177	5 220	6 690	4 989	5 873
G—Mechanics.....	4 550	5 553	6 066	4 550	5 553	6 066	4 984	9 857	6 066	11 273	6 052	8 069
H—Farm products.....	11 813	7 277	16 600	11 201	7 807	12 981	6 240	9 451	12 981	18 629	6 240	18 629
I—Horticulture and floriculture.....	12 605	8 975	16 579	13 221	9 933	25 562	9 617	12 579	25 562	25 078	8 400	25 078
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L—Natural history.....	284	1 488	1 088	284	1 488	1 088	419
M—Military prize drill.....	418	631	418	1 305	517
N—Education.....	54 847	39 578	2 020	48 329	38 620	1 939	38 193	48 496	1 939	64 149	51 896	2 610
Speed Ring.....	2 223	1 934	4 462	4 280	3 395	4 769	3 950	5 905	4 769	4 230	4 107	4 230
Miscellaneous.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	\$230,250	\$154,043	113,925	\$230,300	\$163,237	108,483	\$154,116	\$224,907	108,483	\$242,551	\$177,312	120,535

CAPITAL STOCK, PROPERTY, ETC.

The following table gives the amount of authorized capital stock, property, etc., of all the fair associations in the state so far as reported.

The cash value of real estate and the improvements thereon, owned by the fair associations reporting, is over half a million of dollars (\$568,218 00).

	1876.	1877.	1878.	1879.
Amount of authorized capital stock.....	\$486,900	\$417,010	\$363,085	\$391,590
Number of shares of stock issued.....	22,378	26,216	21,698	24,518
Amount of stock issued.....		\$302,283	\$288,246	\$316,993
Number of shareholders, or members.....	20,341	18,850	16,246	15,368
Cash value of real estate and improvements thereon	\$702,998	\$668,627	\$604,262	\$568,218
Number of volumes in library.....	847	1,426	619	616

The depreciation of fair property each year exceeds ten per cent. During the last three years an average of nearly forty thousand dollars (\$39,156 00) has been expended annually for real estate, buildings, improvements, etc., notwithstanding which the property is worth less in 1879 by \$134,780 than in 1876.

FINANCIAL EXHIBIT.

The financial condition of the Fairs of the State was much improved during the past year, the receipts exceeding that of any previous year.

The amount paid as premiums in 1879, (\$175,954 66), is much more than heretofore paid, while the amount of \$45,195 29 has been paid for real estate, buildings and improvements.

The following table gives the financial exhibit of the aggregate receipts and expenses of the Fairs of the State for the past four years:

Financial Exhibit.		1876.		1877.		1878.		1879.	
Amount in treasury, last report.....		\$27,097 83	\$10,530 79	\$119,824 31	\$15,850 18	\$36,687 61	\$106,396 13	\$17,526 95	
Amount deficit, last report (including debt covered by mortgage)									
Amount received in 1876, fees - gate and entrance			175,075 43		231,971 81	203,410 74		234,076 89	
Amount received in 1876, both rents and permits			31,863 04		33,783 35	34,563 47		40,842 82	
Amount received in 1876, sale shares of stock			14,882 21		3,592 80	5,044 08		11,532 25	
Amount received in 1876, State appropriation					10,050 00	10,230 00		10,106 66	
Amount received in 1876, other sources			43,227 44		18,419 29	19,102 37		29,640 01	
Amount paid in 1876, in premium		150,237 96		163,083 63			175,954 66		
Amount paid in 1876, for real estate, buildings and permanent improvements									
Amount paid in 1876, for current expenses other than premiums		40,213 14		81,271 62		36,812 97	45,105 99		
Amount paid in 1876, in treasury		80,652 53		78,431 81		84,990 66	83,992 89		
Amount deficit (including debt covered by mortgage)		15,617 25		27,610 23		21,510 01	22,847 17		
To balance		195 19	32,424 45	87 05	112,863 28	109,663 32		100,903 17	
Totals		\$313,522 41	\$313,522 41	\$423,393 71	\$423,393 71	\$408,616 59	\$444,638 55	\$444,638 55	

The indebtedness of the fair associations reporting, has been materially decreased during the past year,—deducting the amount in the several treasuries (\$22,847 17) from the total deficit (\$100,903 17) leaves a balance still to be paid of \$78,056 00, or \$10,297 31 less indebtedness than reported for the previous year.

The practice recently adopted by a number of fair associations of pro-rating premiums in unfavorable weather for holding fairs and, after paying the current expenses of the fair, returning to exhibitors the balance of the receipts of the year, is meeting with favor, and this practice will become more general in the early future, and can but result in decreasing the indebtedness of fair associations.

The energy of the managers of fairs is greatly crippled by indebtedness, and no association can render the public the most efficient service when financially embarrassed; neither will the more enterprising men of any community cheerfully assume the official responsibilities of an organization thus encumbered.

PURE BRED STOCK.

The following table shows the number of entries, amount of premiums offered, and the amount of premiums paid to Pure Bred Stock exhibited at the fairs held in the State during the past three years:

Pure Bred Stock.	1877.			1878.			1879.		
	No. of entries.....	Amount of premiums offered....	Amount of premiums paid.....	No. of entries.....	Amount of premiums offered....	Amount of premiums paid.....	No. of entries.....	Amount of premiums offered....	Amount of premiums paid.....
CATTLE—									
Shorthorn.....	2,206	\$12,827	\$10,514	1,961	\$11,098	\$8,361	2,485	\$12,675	\$1,291
Hereford.....	131	1,382	670	104	1,159	778	123	1,941	106
Holstein.....	125	1,180	502	137	1,690	726	184	2,284	883
Devon.....	164	1,933	598	151	2,066	931	183	2,759	921
Ayrshire.....	73	1,285	495	122	1,803	590	177	1,816	676
Jersey.....	456	2,792	1,439	324	2,820	1,467	754	3,582	2,135
HORSES—									
Thoroughbred.....	662	4,382	2,253	359	3,815	2,208	900	4,929	2,818
Roadster.....	1,488	7,855	6,353	1,423	7,319	6,066	2,046	6,737	5,481
Norman and French draft	644	3,364	2,360	540	2,086	1,238	1,099	3,965	2,587
Clydesdale and English draft.....	249	1,632	1,138	357	1,199	885	602	2,571	1,947
SHEEP—									
Cotswold.....	462	959	744	397	978	722	582	1,132	1,023
Leicester and other long wool.....	477	1,801	883	479	1,075	798	873	1,805	1,507
Southdown.....	354	1,017	844	349	1,204	740	517	1,442	1,108
Oxford and other Downs.....	.....	.....	.....	.....	.....	.....	165	486	424
American Merino.....	106	421	339	175	556	415	418	880	677
Spanish Merino and other fine wool.....	416	1,203	875	291	869	594	496	1,365	954
SWINE—									
Bedfordshire.....	1,650	4,019	3,018	1,352	3,927	2,826	1,399	4,410	3,425
Poland China.....	2,063	3,649	3,065	1,752	3,672	2,703	1,955	4,222	3,669
Chester White.....	537	2,339	1,420	604	2,197	1,477	588	2,674	1,743
Essex.....	147	602	528	116	769	450	136	881	573
Suffolk.....	.....	.....	.....	.....	.....	.....	71	516	231
Small Yorkshire.....	.....	.....	.....	.....	.....	.....	72	323	313

The increased interest in the improved breeds of farm animals throughout the State is apparent from the foregoing table, which gives the entries, amount of premiums offered and paid to the several breeds during the past three years, at the fairs held in Illinois.

The Secretaries of a number of fairs have not made a report of pure bred stock exhibited and the foregoing table, though incomplete, is the best that can be given.

The following table gives the proportion of the number of entries of the several breeds of cattle for the past three years, and may be taken as a fair index of the preferences of breeders of the State.

In 1877 and 1878 seventy per cent. of the entries of cattle exhibited at the Illinois fairs were Short Horns, in 1879, 64 per cent. were Short Horns. Jersey cattle, judging from the number of entries, stand second in the estimation of Illinois stockmen.

ENTRIES OF CATTLE.

	1877.	1878.	1879.
Short Horn, per cent.....	70	70	64
Hereford, ".....	4	4	3
D. von, ".....	6	6	5
Holstein, ".....	4	5	5
Ayrshire, ".....	2	4	4
Jersey, ".....	14	11	19

ENTRIES OF HORSES.

There has been no great change during the last three years in the ratio of the number of entries of the several breeds of horses at the fairs held in the State, as will be seen from the following table, which gives the per cent. of entries of each:

	1877.	1878.	1879.
Thoroughbred, per cent.....	22	14	20
Roadster, ".....	43	53	44
Norman and French Draft, per cent.....	22	20	23
Clydesdale and English Draft, per cent.....	8	13	13

It will be seen from the above that there is a slight increase in number of entries in favor of draft horses at the expense of lighter horses.

RECEIPTS AND EXPENSES.

The following table gives the average of receipts and expenses of all the fairs held in the State so far as reported during the past four years:

Average Financial Exhibit.	1876.		1877.		1878.		1879.	
Amount in treasury, last report	\$311 46	\$121 04	\$1,274 82	\$108 61	\$1,240 52	\$295 42	\$1,144 04	\$188 46
Amount deficit, last report (including debt covered by mortgage)		2,012 36		2,452 81		2,260 45		2,516 42
Amount received in 1876, fees -gate and entrance		393 00		359 39		383 98		439 17
Amount received in 1876, booth rents and permits		171 00		38 22		56 04		124 00
Amount received in 1876, sale shares of stock						100 00		100 00
Amount received in 1876, State appropriation		531 00		295 04		226 13		328 03
Amount received in 1876, other sources								
Amount paid in 1876, in premiums	1,785 00		1,787 58		1,717 57		1,891 68	
Amount paid in 1876, real estate, buildings and permanent im- provements								
Amount paid in 1876, for current expenses other than premiums	462 55		365 69		409 09		485 98	
Amount remaining in treasury	862 54		834 38		936 61		1,013 70	
Amount deficit (including debt covered by mortgage)	178 85		294 04		236 77		245 68	
Totals	\$3,600 40	\$3,600 40	\$4,556 51	\$4,556 51	\$4,540 50	\$4,540 50	\$4,781 08	\$4,781 86

The managers of fairs, in comparing their receipts and disbursements with the foregoing table, may be able to judge as to the proportion of receipts that should be expended for certain objects, and also in reducing the amount paid for current expenses, increase the amount of premiums to the advantage of all concerned.

DISTRIBUTION OF PREMIUMS.

The success of a fair largely depends upon the proper apportionment of premiums to the various interests in proportion to their relative importance to general agriculture.

The personal preferences of the managers of fairs should not be considered when arranging the premium list, as no speciality should have encouragement at the expense of other departments.

The following table shows the average number of entries—premiums offered and paid at all the fairs held in the State during the past four years. And a proportionate distribution of premiums to be offered is recommended to a number of fair associations that for years have followed a classification much in need of improvement.

The more successful fairs offer encouragement to all the agencies that have a tendency to promote the interests of agriculture, in proportion to their importance.

The great care taken in the preparation of the premium lists of some Fair associations has for years past proved a good investment to the counties, ensuring continued success of the fairs and consequent improvement in live stock, and the quality of farm products, etc., grown in the county.

PERSONAL.

In closing this, my fifth annual report, I embrace the opportunity to tender to each member of the Board my hearty appreciation of the many courtesies received, and of the ready response with wise counsel and cheerful assistance afforded me in the discharge of the many and varied duties of my office. In this connection it seems proper to acknowledge the valuable services of my chief assistant, Mr. Charles F. Mills, whose long experience in the work of the Department and his fidelity to its best interest, are deserving of special mention.

Mr. D. C. Hoyt accepted the appointment of porter on the first day of November, in place of William E. Owen, resigned, and has performed the duties assigned him in a satisfactory manner.

Respectfully submitted,

S. D. FISHER,

Secretary.

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NINTH REPORT

OF THE

STATE ENTOMOLOGIST

(WALSH, 1. LEBARON, 4. THOMAS, 4.)

ON THE

NOXIOUS AND BENEFICIAL INSECTS

OF THE

STATE OF ILLINOIS.

FOURTH ANNUAL REPORT

BY CYRUS THOMAS, P. H. D.,
STATE ENTOMOLOGIST.

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LETTER OF TRANSMITTAL.

CARBONDALE, ILL., Dec. 29, 1879.

Hon. James R. Scott, President of the State Board of Agriculture:

DEAR SIR: In compliance with the second section of the act of the Legislature of Illinois, entitled "An act in relation to the State Board of Agriculture," approved May 25th, 1877, I have the honor of presenting herewith my "Fourth Annual Report, as State Entomologist, of the noxious and beneficial insects of the State of Illinois."

This will form the ninth of the series of reports by the State Entomologist, viz: One by Mr. Walsh, four by Dr. Le Baron and four by the present incumbent. The title therefore will be as follows: "*Ninth Report of the State Entomologist on the noxious and beneficial Insects of the State of Illinois*," in accordance with the plan adopted in my second annual report.

The increasing demand for these reports from year to year, indicates not only a growing interest in the subject of entomology, but also that our farmers and horticulturists are paying more attention to this subject than formerly. This is also probably largely due to the change in the law which now requires the report to be bound with and made a part of the Transactions of the Department of Agriculture of the State. By this means thousands of the reports are thrown into the hands of persons who would not otherwise see them. Another fact indicating the interest in them, is that numerous requests from parties outside of our state for copies are constantly being received. In all cases, where these requests can be consistently complied with, copies are sent to them, and, in all cases except where demanded by strict entomologists, those bound with the Transactions.

Although the number of copies bound separately (two hundred) is not sufficient to supply the demand for them in this form, yet I have deemed it best not to ask for a greater number, as it is desirable the two shall go together, except to entomologists and scientific societies, with whom I exchange.

As no appropriation is made to the entomologist for the purchase of entomological works, I would suggest that a request be made for a certain allowance to your board for that purpose, as such works should properly be placed in the library of your department. An annual appropriation of one hundred dollars would probably suffice for this purpose, if judiciously expended. The agricultural periodicals and works on agricultural topics in the library of your department have been of great benefit to me; and I desire here to express my thanks to your secretary, Hon. S. D. Fisher, and to his assistant, Dr. C. F. Mills, for their many acts of kindness in aiding me therewith.

As my last report was more purely scientific than either of the preceding ones, I felt called upon for an explanation, especially as I have all along argued the necessity of being as practicable as possible.

I gave as reasons; first, the effect of the school law of our State adding the natural history branches to the studies of our common schools; which has been to awaken an interest in natural history in the minds of teachers and students throughout the State to an extent scarcely anticipated by the most sanguine. This largely increased the demand for these reports; and I was informed by teachers that one thing greatly desired was scientific and tabulated arrangements of groups with descriptions of genera and species which might be used as a means of illustrating the method of identifying genera and species.

A second reason was, that in carrying out my plan of devoting a part of my work to a Manual of Economic Entomology, whenever I entered upon the natural history of a group, I desired to complete it so far as was contemplated by the plan.

The present report, on the other hand, is made, so far as possible, practical and hence is arranged on a practical and not systematic basis. The extensive destruction of that valuable, and now almost indispensable esculent—the cabbage—throughout a great portion of our State the past season has called my attention in a special manner to cabbage insects. I have therefore devoted a portion of the report to that subject. That exceedingly injurious species, the European cabbage-worm—*Pieris rapæ*,—which was introduced into North America about 1857, making its first appearance in the vicinity of Quebec, Canada, has now spread over the northern half of our country from the Atlantic coast to the Missouri river. Fortunately it is bringing with it its special parasites, particularly the little Chalcid fly—*Pteromalus puparum* which has so largely aided in keeping it in check in Europe. I may remark here that it is somewhat singular, that this little Hymenopterous insect appears to be a native of this continent as well as of Europe. The large number of the chrysalids of the cabbage worm which appear to be parasitized lead me to hope that next season our gardeners will find this little fly an efficient aid in keeping this imported cabbage insect in check.

Toward the close of the season a new foe to the cabbage made its appearance in the southern part of the State, which, if we judge by its operations during last fall, may prove a formidable pest in the garden. This species, which I have named the *Purple Cabbage-worm*, is the larva of a little Pyralid moth,—*Pionea rimosalis*, Guée—for which we have no common name. Not only were these worms as numerous, in the limited section where they were observed, as the European species, but were, if possible, more destructive and equally tenacious of life. It is possible the long continued warm weather of Autumn brought this pest upon us, and that it may not hereafter trouble us to any considerable extent. If it is a southern species this will most probably be the case, but it is somewhat singular it has never been heard of before if this be so.

The little corn Aphid, which will be found fully described in my former report, has been quite injurious in a few sections in the northern central part of the State during the past season. Although it attacks the tassel, ear, stalk and roots, the injury in this case appears to have resulted almost entirely from the attacks on the roots. I cannot but think that a little timely work would in a large measure

eradicate this species from any field. First by proper rotation of crops, second by thorough fall plowing and turning under, in the fall, some good strong lime. Where this plan has been adopted the result has been favorable.

The chinch-bugs appeared in limited numbers in some localities, in the fall, and there are some grounds to fear that if next season is dry they may develop to such a degree as to do considerable injury. This species has been selected by the National Entomological Commission as one of those to be investigated by that body. In compliance with the request of the Commission, I prepared the manuscript of a Bulletin to be issued under the Department of the Interior; as soon as published I will request a somewhat thorough distribution throughout our State. If a list of names were furnished me by your Secretary they could then be distributed directly from the Interior Department, as that Department would willingly do so if requested and a list of names furnished.

I am inclined to the belief that as a means of counteracting this destructive pest, it would be advantageous to push the cultivation of winter wheat as far northward as this can be done with satisfactory results, as a careful examination of the statistics of losses shows that this variety suffers less from the attacks of this insect than spring wheat.

Considerable complaint reached me early in the spring, and also late in the fall, in reference to the Hessian fly. In some cases specimens sent proved to be this species, but in other cases where I caused fields to be examined, supposed to be injured by this fly, no specimens could be found. I am therefore inclined to believe from evidence furnished that the injury to the fall wheat was caused partly by the wheat aphid though chiefly by the fly.

Complaint from some sections of the State has been received that a new worm has been injuring the clover. So far I have been unable to procure specimens of this worm and hence am unable to determine what it is.

Having been repeatedly called upon during the past two or three years to give information in reference to the parasites infesting domestic animals I have concluded to devote a part of the present report to that subject, although it requires me to travel out of my legitimate field. As the investigation of the history of internal parasites requires a long study of the species, I have necessarily been compelled to have recourse to the works of others on this subject.

It is my intention to prepare as soon as possible a list of useful plants and other substances injured by insects with the names of the species, as a means of ready reference. Whether I will be able to complete it before this report is printed so as to insert it is doubtful.

Since my former report was issued fourteen drawers of the insect cabinet have been filled with properly arranged and classified specimens. This part of the work is necessarily slow but as fast as the specimens can be obtained, after they have been carefully examined and determined, they will be placed in the museum of the Department. A drawer nearly filled is sometimes retained for months waiting until a specimen required to fill out the series can be obtained.

I expect during the coming year to send in the coleoptera, some of which have been awaiting determination.

As ascertaining of habits and life-history of species, and the best means of destroying or otherwise counteracting the injurious ones is

my chief work, the preparation of specimens is necessarily secondary, and although an important part of the duty of a State Entomologist, must not be allowed to supersede the economic work.

There appears to be a growing belief in the minds of many of our practical farmers and horticulturists that as a general rule, though subject to several important exceptions, topical applications in the "long run" are of but little real value. For example, that but little real advantage is gained by the use of Paris green for the *Ten-lined*, or as it is improperly called "Colorado" Potato Beetle.* Not that this substance fails to destroy those to which it is applied, but that the same end might be attained by use of other means at the proper time, with as little expense of time and money, much less danger, and as little injury to the potatoes.

I tested this on a small scale last summer. Having some fears of this pest, I suggested that in case any farmer observed it in his potato patch, he should, if his force was not sufficient, call on his neighbors for aid and at once destroy entirely beetles, larva and eggs before they had time to develop. Two or three patches were attacked, my own being one of them, the method suggested was adopted and the result was we saved our potatoes with as little trouble and far less danger than by the use of Paris green. By proper care and watchfulness, and commencing work vigorously upon them at their first appearance, trouble, expense and the crops may be saved. I have succeeded the same way the present year (1880).

After killing the Ten-liners (*Doryphora decemlineata*), the "Old fashion species," as it is now usually called (*Epicauta vittata*), made its appearance on my potato plants in abundance. These were readily driven off with brush switches before they had time to do any serious injury, and did not return. A neighbor, in whose patch a swarm, possibly the same one, made its appearance, adopted the same plan with equal success.

In years when they appear in excessive numbers over extensive areas it will not, as a matter of course, be so easy to dispose of them; but united and timely efforts vigorously followed up will, as before stated, do more good and be less expensive in the end than waiting to try doubtful experiments.

There are some cases where combined efforts only are likely to be successful, for example, with the European cabbage-worm, heretofore mentioned.

A gardener, who is watchful and energetic, commences the fight with the butterflies as soon as they appear, but as fast as he kills them new recruits pour in upon him from the neighboring gardens around him. If he should even find an application that is fatal to them and destroys the worms, a second brood from the gardens of his less energetic neighbors comes in upon him in increased swarms and by the time he has these killed his cabbages are destroyed. In this case, unless the parasites of the species afford the needed relief, it will probably be necessary to adopt some method of cultivation such as I have herein suggested, as will enable the cabbages themselves to resist the attacks of these foes. But as before stated there are cases in which nothing but topical applications will answer, and must of necessity be resorted to.

* *Ten-lined*, the name given in my essay of 1862, is the name that should have been adopted.

During the past year I prepared a number of large drawings to be used as a means of illustration while lecturing before agricultural societies, clubs, etc. I find this plan highly appreciated and shall endeavor to carry it out to a fuller extent the coming year.

In closing, allow me to say, I find myself under renewed obligations to the Governor, the various State officers, Secretary Fisher and assistant, and your Board for numerous favors received and the evident sympathy they have shown at all times with my work. I am also under obligations to the Illinois Central Railroad Company for an annual pass over their roads.

Very respectfully,

CYRUS THOMAS,
State Entomologist.

P. S. After the foregoing was written I found that the Hessian-fly was abundant in some sections; that the long continued warm weather brought it to the perfect state. I then predicted the wheat would suffer no injury from this pest this spring, which opinion was then published. I am glad to say that while this is going through the press we have the evidence in our wheatfields of the correctness of my predictions.

CABBAGE INSECTS.

Cabbage (*Brassica oleracea*) is one of the vegetables brought into use at an early day, and although not so indispensable as the potato, is nevertheless an esculent highly esteemed, and has assumed an importance that gives it a prominent position, not only in the horticultural catalogue, but also in estimating the productions of our country. I have no statistics by which to estimate its value in this country, but when we learn that in London about one-hundred million heads are annually sold, which, at but five cents a head, would amount to \$5,000,000 we may be prepared to estimate the amount raised in Illinois at a sum worthy of being taken into consideration in estimating the value of our productions.

Just when and where it was first brought into use it is not possible to state now with certainty. A comparatively recent article in Hardwicke's Science Gossip says that the plant from which the varieties in use in England originated, is to be found along the southeast sea-coast of England. But it is certain that some of the varieties were early in use on the western side of the continent; also that kales or coleworts of some kind were long in use in Greece and Rome, as they are frequently mentioned by Greek and Roman writers and even directions given for their cultivation. It is also certain that various species of *Brassica* are found in different parts of the world.

But it is not my intention at present to enter into the history of this vegetable farther than to call attention to the fact that our species is probably a native of a northern maritime country, although the genus is distributed over the temperate climate of Europe, Asia and Africa.

Naturally of a succulent character which has been greatly increased by cultivation, it is thereby rendered more than ordinarily liable to the attacks of leaf-eating insects.

What its original insect enemies were we have no means now of ascertaining with any certainty; but it is evident that the change made in it by cultivation, and its extension over a large portion of the world, has added considerably to the list of its insect foes. As the westward extension of the area of potato cultivation has added to the insect enemies of this vegetable, in this country, so the western and southern extension of the cultivation of cabbage has increased the number of its foes. We may mention as examples in proof of this statement, the Southern Cabbage butterfly (*Pieris protodice*) and the Harlequin Cabbage bug (*Murgantia histrionica*.) The latter, in fact, did not commence its attack until this vegetable began to be cultivated in a certain portion of the Gulf region.

As the chief portion of this plant, as grown under cultivation, consists of its leaves, the attacks of its insect enemies are directed chiefly, and, in fact, almost entirely against these. As the leaves constitute the edible portion of the plant, this fact limits the application of topical remedies to such substances as will not endanger life by

their poisonous qualities. The succulent nature and crisp character of the leaves, notwithstanding the hardy character of the plant, tend also to further limit the use of topical applications, especially such as will discolor or injure them.

So far but little has been done towards finding any other remedies than topical applications, but the experience of the past season in our own State has led many to doubt the efficacy not only of any that have been recommended, but of all remedies of this class so far as counteracting insects that attack the cabbage are concerned. In fact there is a growing tendency among practical horticulturists to place less and less reliance upon such remedies in any case, except perhaps for such tender-bodied and easily destroyed insects as plant-lice.

The loss of cabbage the past season through the operations of the caterpillars of the cabbage butterflies, is well known to every horticulturist, and as these are now the greatest enemies our cultivators of this esculent have to contend with, we will commence our list with them.

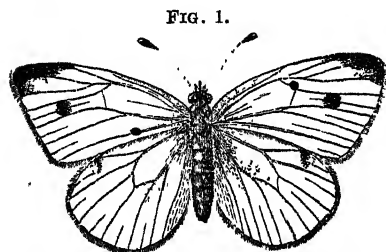


FIG. 1.
European Cabbage Butterfly. Male.

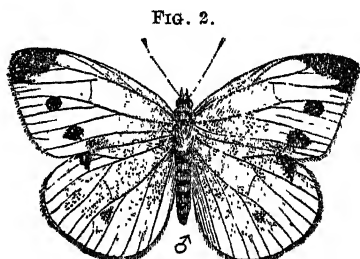


FIG. 2.
European Cabbage Butterfly. Female.

THE EUROPEAN CABBAGE-BUTTERFLY. *Pieris rapae*. Linn.

This species which, from the fact that it has been introduced from Europe, has generally received the name "European Cabbage-Butterfly," is usually designated in England the "Small White" or "Turnip Butterfly."

It is beyond all doubt the most injurious cabbage insect with which our gardeners have to contend. As is the case with most of the species which have been introduced from Europe, it is more injurious than any of its native congeners. According to Abbe Provancher it annually destroys about \$240,000 worth of cabbage in the vicinity of Quebec. A correspondent of the American Agriculturalist for November, 1870, states that the loss from this insect, in the vicinity of New York alone, would amount for that year to more than a million dollars. As I have no statistics in reference to the cabbage production of our State it is impossible for me to estimate the loss occasioned by this insect the past season, but it must have amounted to fully one-half of the entire crop.

It was introduced into North America about 1857, appearing first at Quebec. In 1864 it had not then extended more than forty miles from that city; but in 1866 it was taken in the northern part of New Hampshire and Vermont, and westward beyond Montreal. By means of the railroads it was soon carried to Boston, New York, and southward to Philadelphia and Washington. In 1869 it was reported as common in New Jersey, though Dr. Fitch states that it was first seen in eastern New York in 1870. By 1871 it had travelled as far eastward as Halifax, Nova Scotia, and westward to central New York. It must have reached Illinois about 1876, making its first appearance in the vicinity of Chicago, although attracting no attention until 1877, so far as I can ascertain, when it was found at Maplewood, west of Chicago, in September, having reached this point in its westward march. In 1878 it made its appearance in injurious numbers as far south in the state as Springfield, and a few specimens were taken at Carbondale. Its general spread over the state during the past season has already been referred to. What point it has reached in its westward march I have not learned, but it is more than probable that by this time it has passed across Iowa.

It was probably introduced into this country in some vessel which discharged its cargo at Quebec. Prof. Riley, in his second report on the noxious insects of Missouri, says it was probably introduced in the egg state, on a batch of refuse cabbage leaves which were thrown from some vessel, where, after hatching, the young larvae managed to find suitable food close by. Dr. Fitch, in commenting upon this suggestion, remarks that: "The insect does not remain in its egg state the length of time required for such a voyage. The eggs, however, hatching on shipboard, the worms from them would readily sustain themselves on the leaves, and on reaching port where fresh vegetables could be obtained, the few wilted and decaying cabbages remaining would be thrown away, with some of these worms lurking among the leaves, whereby their race was probably started on our continent."

As this species has been known in Europe from time immemorial, it is a matter of surprise that it was not introduced at an earlier day. But this is to be accounted for by the fact that it was necessary a combination of a number of favorable circumstances should take place before it would be transferred from one continent to another.

Dr. Fitch mentions a somewhat singular fact observed at its introduction into the section of New York in which he resides. "During the fore part of the year 1870, our white butterfly [*Pieris oleracea*] made its appearance in the usual manner. One or more of them might be seen almost every day flying about our gardens and yards. On the second day of August four white butterflies were hovering about and alighting around me in my garden, when one of them was noticed with much surprise as having a round black spot near the middle of its fore wings. Conjecturing it to be the spotted variety of our white butterfly, and anxious to secure the specimen, I hastened to obtain a net for its capture; but on being approached, to my great regret it flew wildly away. Next day however, two similar specimens were noticed and captured, and on examination were discovered to be the European *Pieris rapae*. And on the following days these spotted butterflies occurred more and more common, whilst our white butterfly immediately vanished, not one of them being seen either in the gardens or the meadows." A somewhat similar result has attended their appearance in my immediate neighborhood.

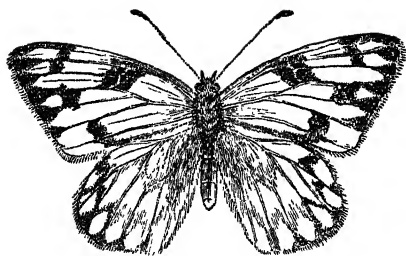


FIG. 3.—Southern Cabbage Butterfly.

eigner, as the Caucasian among the races of men, is destined to drive from the field the aborigines.

The butterfly or perfect insect of the European species which varies slightly in the two sexes may be briefly described as follows:

The general color a dull creamy white often showing a yellowish cast, the body black above and on the sides, head greenish-yellow; underside of the body yellow; antennæ varied with black and white, the club at the end dusky except at the extreme tip, which is brown. The legs white. The wings of both sexes are of a creamy white above (but marked with black dots as hereafter noted), beneath, the anterior pair white except the tips which are yellow, the posterior pair yellow; on the upper side, the tips of the forewings are marked with a triangular black space; the base of both wings where they join the body are powdered with blue-black. The males (Fig. 1) have the anterior wings each marked above with a single round, black dot near the center; the underside has a corresponding black dot, also a smaller one immediately behind it, near the posterior margin is generally present.

The upper side of the posterior wings usually has a black or dusty dot or mark on the anterior margin near the apex; underside without any spot. The female (Fig. 2) differs only in having two black dots on each of the anterior wings, which are usually larger than those in the males, and are reproduced on the underside; the base of the anterior wings is more widely sprinkled with the dusky shading. The hind wings have the outer margin regularly rounded; abdomen slender.

Length of body about .75 inch; wings expand from 1.50 to 2 inches; usually about 1.75 inch.

I add here Dr. Fitch's lengthy description of the species as observed by him in New York:

"The head is coated over with straight white and black hairs of different lengths, the black ones less numerous on the underside. The eyes are large, protruberant and hemispherical; in the living specimen grayish green, with four rows of movable black spots, the central spot being of a deeper or coal black color; in the dead specimen dull brown and without spots. The antennæ are 0.40 long, and composed of thirty points, which are shorter at each end than in the middle. They are slender and thread-like, with the tips enlarged into a knob of an elongated egg-shaped form, with the larger end outward. Their colors are prettily arranged in new and unruffled specimens, the outer and undersides being white; on the upper side a continuous black line; on the inner side a row of long oval dark brown spots, one on each joint extending from its base nearly to the tip; these spots separated from the black line above a slender white line,

Our native species,—*Pieris protodice*, (Fig. 3) is usually very abundant during the summer and early part of the fall. Last fall, as before stated a few specimens of the European species were observed; the native species being quite abundant; but the present season during which the former has been very abundant the latter is seldom seen. It would appear from this that the aggressive for-

which is widened toward the apex of each joint, and there sends downward a transverse band connecting this white line with the white under side. The knob is flattened or spoon-shaped and black on the concave inner side, white on the lower edge and outer side; the upper part of this side being sprinkled with black scales which sometimes form bands of this color, the tips pale yellow. The thorax is black and clothed with soft hairs of a white or bluish white color. The abdomen is black and covered with white appressed scales, less dense upon the back; its under side white and coated with white scales. The legs are covered with white scales, and the under side of the thighs with white hairs; and there is frequently a black stripe on the thighs and one or two slender black lines on the shanks and feet. The wings are white and at their bases dusted more or less with black scales. The fore wings frequently have black scales sprinkled along their outer or costal border its whole length. At their tips is a large triangular grayish black spot, which is longer on the outer than on the hind side, and on its inner side straightish, frequently with a concavity towards its inner end. In the female this spot is larger, but effaced on its inner end, whereby it has more of a squarish than a triangular form. Slightly beyond the center of these wings is a large black dot or round spot; and between this and the inner edge, in the female, is a second spot, which is usually smaller and less regular in form, with its edges more indefinite. And in this sex is frequently a faint gray streak on the inner border of these wings, extending from opposite the inner spot forward toward the base. The hind wings in both sexes have a black spot on the outer margin a little back of the middle, which is smaller than those on the upper wings, and its more indefinite. On the underside, the forewings are white and sprinkled with black scales at the base and along the outer border sometimes to the middle. Along the innerside of the rib-vein toward the base is a broad stain of yellow, more distinct in the females. The tips are pale yellow, and in both sexes there are two black spots, corresponding with those on the upper side in the female, but commonly smaller. The hind wings are pale yellow, and dusted over with small black scales, which are more numerous toward the base; the outer edge is brighter yellow near the base, and no vestiges of the black spot of the upper side are here visible in either sex."

Curtis's description of the species as observed in England is as follows:

"The *male* is white, the superior wings have black tips dusted with white, and the inferior wings have a black spot on the upper edge: The *female* is similar, but has two large black spots likewise beyond the center of the superior wings; under side of same white, the apex yellow, and two black spots beyond the middle, the lower one sometimes nearly obliterated; inferior wings yellow, freckled with black; length of male, 8 lines; expanse about 2 inches; the female is larger and sometimes of a duller color; but I possess a male taken near Oldham, in Lancashire, which has all the wings of a bright yellow color."

The female butterfly deposits her eggs singly here and there usually upon the under side of the leaves, not in clusters as do some other species of the same generic group; but she does not confine herself to this part of the leaf as the edge and upper side are often

selected especially when the insects are abundant. To the natural eye they appear like little pale yellowish green grains, being so small that they pass unnoticed unless the attention is turned especially towards them. If examined by a magnifying glass they will be found to be conical, or shaped like the old fashioned sugar loaf, the larger end or base which is flat, being glued to the leaf; the apex is also cut squarely off. Their surface is glossy and beautifully fretted with alternating minute ribs and furrows; the ribs, of which there are usually about twelve, run lengthwise, with intervening furrows; it is also striated transversely with very fine impressed lines regularly placed. The length is rather less than one-twentieth of an inch, the thickness about one-fourth the length.

The time required for the eggs to hatch varies somewhat, but is usually about six or seven days. The little pale yellow glossy caterpillar, which is less than one-tenth of an inch long when it first escapes through the opening it has gnawed in the shell, not satisfied with release from its prison, as the first act of its free life devours the shell. This habit appears to have been first noticed by Harold and is mentioned by Westwood, Curtis, Fitch and others. Dr Fitch describes this operation fully as observed by him as follows:

"The first act of the worm is to eat the shell of the egg from which it has been hatched. It first gnaws an opening on one side from the top nearly to the base, and then very slowly nibbles the sides of this opening, and the base of the shell, until it is so cleanly consumed that no indications of the spot where it was placed remain. In the instance observed, the worm was occupied five hours in eating its shell. When this is accomplished it remains at rest for a few hours."

His further observations in reference to the habits of the young caterpillar are so clearly stated and so interesting that I make no apology for introducing them here.

"Its second act is to weave a mat or carpet to give it a more secure foothold upon the leaf. Applying its mouth to the surface of the leaf and moving it from side to side, it spins therefrom a thread of silk of most extreme fineness, which it fastens to the surface, crossing it, in every direction, until it forms a thin film, which to the eye appears like a small glossy spot very visible in a particular reflection of the light, looking as though the leaf had been slightly touched with varnish. If nothing occurs to drive it therefrom, this spot becomes its residence for a few days. And wherever it takes up its abode subsequently, it constructs a similar mat, into the threads of which it can catch the minute hooks of its feet, to render its standing more secure than it is upon the naked surface of the leaves.

"It next begins to feed upon the leaf, some six or twelve hours after it has finished eating the egg shell. At some point slightly outside of the edge of the mat on which it is standing, it eats a round hole, the size of a small pin head, into which it gradually sinks its head deeper and deeper, until it passes through the parenchyma of the leaf to the skin of its upper surface. As yet it is so small that the eye only perceives it to be a minute, cylindrical, pale, yellow worm, usually lying straight and motionless on the leaf. But as it feeds on the green pulp of the leaf, its body acquires a green color and slowly increases in size, growing about one-thirtieth of an inch daily.

"Foreign authors state that in getting its growth this cabbage worm molts or casts its skin 'several times.' I can say with perfect confidence, it is only three times that it molts. When it first comes from the shell it is extremely soft and its skin admits of much distention before it constricts the worm to such a degree that it requires to throw it off. It is not till it has grown to double its first size and is 0.12 to 0.15 long that it casts off its skin the first time. It then feeds and grows till it has again doubled its size and is 0.25 to 0.30 long, when it molts a second time. It again doubles its size and becomes about 0.50 long, when it makes its third molt; and the skin which it then acquires it retains till it reaches maturity, throwing it off only when changing into its pupa form. This is the uniform course of these worms, as I have observed in a number of instances. The only aberrations I have noticed in these moltings are, that one of them is sometimes deferred till the worm is much larger; yet this does not appear to affect the other moltings of the same worm, for these occur as usual. Thus in one instance the second molting did not take place until the worm was 0.38 long; yet the third occurred when it was 0.53. In another instance the second molting took place when the worm was 0.30 long, yet the third was deferred until it was 0.64"

The almost uniform color is pale green; the full grown larva is a little over an inch in length and about one-sixth of an inch in diameter. Dr. Fitch says they are quite uniformly an inch and one-tenth in length; but as a general rule I have found them in Southern Illinois oftener nearly an inch and one-fourth in length. The constrictions between the segments are not very distinct, but the body appears rather to be divided into numerous little rings, of which I find about six to the segment. They are covered everywhere with fine short whitish hairs; interspersed among these are minute black conical tubercles or elevated points. By examining closely with a pocket magnifier, it will be seen that these black points are arranged in rows along the transverse ridges into which the segments, as before stated, are divided, the intervening, transverse, impressed lines being smooth and without hairs or tubercles.

The head is rather small and is also hairy; the body tapers very slightly toward each extremity; there are six true legs, eight abdominal and two anal fleshy pro-legs.

The general color, which is nearly uniform throughout, is often described as a pea-green; while this is sufficiently correct for general purposes, yet if we examine them closely we find that the green has a slightly bluish cast, more apparent on the underside, which is paler than the dorsal surface. There is usually a narrow yellow line along the middle of the back, but this is sometimes partly obliterated, and one now (Nov. 24) before me, and alive, shows scarcely any sign of it, a mere trace being visible on the first and second segments, and this so faint as to be seen only with a glass under certain reflections of light. On each side near the lower margin there is a row of bright, yellow dots, one on each segment a little behind the breathing pore.

When young their skin is somewhat glossy and shining, but when they reach maturity the surface assumes a velvety appearance, given it by the numerous minute pimples and short hairs with which it is covered.

The following descriptions by others are introduced here for the purpose of enabling examiners hereafter to determine questions as to local varieties.

Curtis, in his *Farm Insects*, briefly describes it as follows:

The eggs are "not unlike those of *P. brassicae* in form and sculpture, but the caterpillars are totally different, being green and so densely covered with minute hairs as to be velvety; they have a yellowish stripe down the back and another along each side, the venter being of a paler brighter green; they are often more than an inch long and about as thick as a crow quill."

His figure shows distinctly the lateral stripe.

Goureaux's description, in his "*Insectes Nuisibles*," is evidently copied entire from Curtis.

Boisduval, in "*Entomologie Horticole*," describes it very briefly, but mentions three longitudinal yellow lines, one along the back and one along each side just above the feet.

Stephens, in "*British Entomology*," describes the caterpillar as "green, with a pale line on the back, and a whitish line, often punctured with yellow, on each side."

But the most complete description is that given by Dr. Fitch, in his Thirteenth Report; as follows:

"When examined with a magnifying glass, the surface of these worms is found to be everywhere bearded with fine short whitish hairs, those upon the back shorter, and on the young worms black and interspersed with small stiff bristles. These hairs arise from numerous minute black elevated points, with which the surface is everywhere studded, the larger points being arranged in transverse rows, a row upon each of the elevated ridges into which the segments are divided by impressed, slender transverse lines. In addition to these black points, a few pale dots or minute warts are more or less perceptible, one appearing on each side of the middle of the back, on the second elevated ridge of each segment; another lower down on each side, upon the fifth ridge, and some others below these. But on each of the three first rings these pale dots are arranged in a single transverse row, on the first elevated ridge, three dots on each side, placed equidistant from each other. Along the middle of the back is a pale yellow line, which is sometimes very faint, or visible only on the anterior rings. Low down on each side is a row of dots of a brighter yellow color than the line on the back, one on each segment, placed a little back of the breathing pore. The breathing pores are small, broad oval, dull white, inclosed in a black ring, which is bordered with yellow, this border being more broad on the fore side and sometimes wanting on the hind side. The head is spheroidal and as broad as the neck, green, and clothed with hairs. The legs and pro-legs have the same green color as the body."

Instead of commencing at the margin of the leaf and eating inward, as is the habit of many leaf-eating insects, it riddles it with holes, gradually enlarging these where the worms are numerous until all that portion between the veins is consumed. Although they will commence operations on either the upper or the under side of the leaf, yet my observations lead me to believe they prefer commencing on the upper side. Although they bore into the incipient heads, yet I did not find this habit so general as I supposed, from what I had read in reference to them; in fact, I seldom found them making their

way into well-formed, compact heads. When the heads are forming, and they commence work on the outer clasping leaf, this appears to have the effect to cause it to partially open or withdraw from the head, which enables the worm to work more freely. This also has a tendency to prevent the cabbage from heading.

Notwithstanding the butterfly appears to be aggressive in its nature, in this country at least, driving away by its simple presence or in some other way, our native congeneric species, the larva on the other hand is of a quiet and peaceful disposition, avoiding intrusion upon each other and upon other insects. It is with much hesitancy it passes from its leaf to another; and Dr. Fitch noticed that if an aphid was located on a leaf near where the worm was feeding, the latter would without encroaching upon or in any way molesting it leave untouched a portion of the leaf a half an inch or more in extent around the aphid. I have observed an aphid walking freely over one of them without it making any effort to disturb or cast it off.

Although apparently so tender and delicate in its organization it is exceedingly tenacious of life; acrid substances which will readily destroy many other caterpillars appears to have but little or no effect upon it. I have noticed them eating away though covered with pulverized lime; Dr. Fitch has observed the same thing with reference to white hellebore, and yet this will readily destroy the currant worm or saw-fly larva. The same author also states that on one occasion he found one frozen in a cake of ice which after being thawed out revived and completed its transformations. How it is possible for an insect apparently so tender and composed almost entirely of fluids, to survive under such a degree of cold is a difficult problem to decide. Cabbage is capable of surviving very severe cold, and hence we presume is a native of a northern climate, it is therefore possible that it communicates this property to the worm which feeds upon it.

When it has completed its growth, admonished doubtless by some peculiar feeling that it is about to undergo a change, it becomes uneasy and commences running to and fro seeking some place of retirement where it may safely pass the pupa or chrysalis state. For this purpose it selects, if it be found, some place above ground, that is somewhat protected, as the underside or margin of a rail, board or projecting substance, apparently preferring dry woody substances. I have observed them climbing the sides of a two-story house to the eaves before content with the position. Having found a place that is satisfactory, the first act of the caterpillar is to spin a little mat on the surface, in which it can fix the hooklets of its feet as a means of support. It next spins a strong silken cord across the middle of its body fastening it firmly on each side to the plank or rail on which it is placed. Soon after this operation is through, the worm commences contracting in length, especially its anterior portion; the color also changes from the bright green to a dull or dirty yellowish-green approaching more and more to the dull gray of the pupa. The outer skin during this time, is loosened from the pupal skin within which by this time it is completely formed; it now gives way before the pressure of the insect within and splits open along the head and front part of the back. The pupa proper now appears and having relieved itself of the old larval skin, assumes the chrysalid form of the species.

The pupæ vary in color not only according to age, but after they have fully completed their pupal growth; almost every color from a dull yellowish green to an ash gray may be encountered. A light gray, with numerous black points appears to be the most common; those which are parasitized are paler than those that are living. The length varies from about .70 to .80 of an inch; a perfect one now before me measures exactly .75 inch, the precise measurement given by Dr. Fitch as the usual length. The angles in the throacic region are sharp and somewhat laminated; the two anterior lateral ones presenting a single prominence, the posterior ones two prominences; the anterior end is armed with a short spine which projects forward.

The length of time that the summer brood remains in the pupa state varies considerably. Dr. Fitch gives the length of time six specimens of the summer brood remained in this state, partly from his own observations and partly quoted from the statement of Joseph L'Admiral, as follows:

DATES.

Entered pupa state.	Butterfly appeared.	Length of pupa state.
July 8.....	July 19.....	11 days.
July 20.....	August 5.....	16 "
August 19.....	August 26.....	7 "
August 22.....	September 2.....	11 "
August 29.....	September 7.....	9 "
September 4.....	September 23.....	19 "

Professor French informs me that those he reared remained in the pupa state generally from six to eight days.

My observations differ somewhat from either of these, showing the time to be shorter. A number of full grown worms, about twenty, were collected July 17, which were about to enter the pupa state; by the evening of the next day all were chrysalids. On the 22d of the same month, five days afterwards, a few butterflies made their appearance; the 23d a large portion appeared, and in a day or two more, all not parasitized had completed their transformations.

It would appear from this that the pupa state is considerably shorter in the latitude of Southern Illinois than in that of New York.

As the insect winters in the pupa state, the chrysalids of the fall brood are not, as a matter of course, transformed into butterflies until the following season, from March to May, according to the latitude and season. The fact that one of Dr. Fitch's specimens entered the pupa state August 21st, and the butterfly did not come out until December 8th; and one of L'Admiral's which pupated September 5th, did not come out until the 28th of May following; shows that in the same section some may be double-brooded while others may be but single-brooded. Or in more southern latitudes some double brooded and others three brooded.

Miss Smith, in her address delivered before the Wisconsin Horticultural Society, at Green Bay, states that "the butterflies" (of this species) are generally supposed to hibernate during the winter months(?) I presume that she intended to convey the idea by this language, that it is generally supposed this insect hibernates in the perfect or butterfly state; so far, I have been unable to find any authority for this

statement, as all the writers who describe the habits of this or the congeneric species, state directly or indirectly that they hibernate in the pupa or chrysalis state. This has been known in Europe from the days of Harold, and in America, the same fact has been observed from the time of its discovery to the present.

This species is generally understood to be two brooded. The perfect insect was taken here last spring early in March; and there are a few worms now (Nov. 26,) on the cabbages. The butterflies have been more or less numerous all summer, but they appeared to be most abundant at three periods; the spring brood in March and April; the July brood and September brood. Hence I feel quite certain that we had three broods in the southern extremity of the State last year.

Natural Agencies which assist in its destruction.—Fortunately for the gardener this and the other species of cabbage butterflies are subject to the attacks of certain parasites which aid very materially in their destruction.

Curtis in his "Farm Insects" describes and figures several species of parasites which prey upon the three species of cabbage butterflies found in England, and shows how thoroughly they keep in check these troublesome worms. These are chiefly minute ichneumon-flies of the Chalcid group, some of which deposit their eggs in the eggs of the butterflies; another punctures the caterpillar and deposits its eggs in its body, while another places its eggs on the outside of the chrysalis so that when hatched the little grubs can work their way into the interior. The last of these, the *Pteromalus puparum* of Linneaus is found also to be a native of this country; and since the advent of the European cabbage butterfly which, we are now describing (*Pieris rapæ*), has manifested its desposition by attacking the chrysalis. It was not known that this Chalcid was a native of this country, but when observed, was supposed to be an importation which had been brought over from the eastern continent with its host, until Dr. Packard, by comparison of specimens found here and in England, ascertained they belonged to the same species.

This little Hymenopterous insect, rather less than one-tenth of an inch long, is wasp-like in form, with four delicate transparent wings, very slightly reflecting the prismatic colors, the anterior pair with a single short, dull yellowish nerve; the head very short and broad; the body of the female is a blackish green, that of the male somewhat pale-green.

The following more exact description is by Dr. Packard:

"Description.—The male of the *Pteromalus* is a beautiful pale-green fly, with the body finely punctured and emitting metallic tints; the abdomen, or hind body, is flat, in dried specimens with a deep crease along the middle of the upper side, and it is much lighter in color and with more decided metallic reflections than in the rest of the body. The antennæ are honey-yellow, with narrow black wings. The legs are pale honey-yellow. It is .08 to a tenth of an inch in length.

"The body of the female, which would be thought at first to be an entirely different kind of an insect, is much stouter, broader, with a broad oval abdomen, ending in a very short ovipositor, while the underside of the body near the base has a large conical projection. It is much duller green than the male, and the body is more coarsely punctured. The scutellum of the metathorax is regularly convex, not keeled, in both sexes. The antennæ are brown, and the legs brown,

and the legs brown; becoming pale toward the ends; the ends of the femora being pale, the tibiae pale brown in the middle, much paler at each end, while the tarsi are whitish, though the tip of the last joint is dark. It is from a line to a line and a third in length.

"The larva is a little white maggot about a sixth ($\frac{1}{17}$) of an inch in length. The body consists of thirteen segments, exclusive of the head, and is cylindrical, tapering rapidly toward the head, while the end of the body is acutely pointed. The chrysalis is whitish, the limbs being folded along the under side of the body, the antennæ reaching to the end of the wings; the second pair of legs reaching half-way between the end of the wings and the end of the abdomen; while the tips of the third pair of feet reach half-way between the second pair of feet and the end of the abdomen. It is from a line to a line and a third in length."

According to Curtis the female deposits her eggs upon the outside of the chrysalis of the butterfly as soon as the caterpillar has cast off its skin, and while it is yet soft and tender and exhausted by the severe change which it has undergone. These eggs soon hatch, and the little grubs at once eat their way into the body of the chrysalis, the interior of which at this time is in an almost liquid state.

Mr. Curtis does not state whether this is given upon his own observation or the statements of others.

While not without a parallel it does not appear to be by any means a common habit of the parasites of this group to select such place for depositing their eggs; and so far I have failed to find any eggs or appearance of eggs on the pupa case of parasitized specimens.

It is also an unsettled point among entomologists as to whether this parasite operates on its victim in the larval or chrysalis state. That the eggs are not deposited on the external surface of the pupa may safely be taken for granted until careful observation shows it to be otherwise. The negative evidence is against this mode; the usual habit of these parasites, in this respect, is against it; the fact that only the soft, tender and recently transformed specimens are selected, indicates the contrary. For example, according to Kirby and Spence (Intro IV 233) *Callimome puparum* commits its eggs to the chrysalis of *Vanessa urticae*. The moment this caterpillar quits its skin to assume that state, while it is yet soft, they pierce it and insert their eggs.

The following statement by Mr. Saunders, editor of the Canadian Entomologist, in the October number (1878) of that periodical indicates, so far as a single observation bears upon the question, that the *Pteromalus puparum* follows the usual habit of its congeners, to-wit: deposits its eggs in the caterpillar.

"A few days since, while watching some of the full grown larvæ of the cabbage butterfly which were feeding on Nasturtium leaves, I was much gratified in witnessing the method of attack which this parasite adopts. Settling herself quietly down on the back of the caterpillar, near the terminal segments, with her head towards the caterpillar's head, she paused awhile; then with a sudden movement of her ovipositor, so quickly that the motion almost escaped detection, she thrust an egg under the skin of her victim. The caterpillar seemed startled, and quivering, jerked its head and anterior segments

suddenly about and then quieted again; the little tormentor meanwhile sitting perfectly composed on the spot where she first settled. Presently another thrust was made, followed by further uneasy movements of the larva, and in this manner, in the course of a very few minutes, quite a number of eggs were deposited. The caterpillar did not seem to be conscious of the cause of its troubles, nor, indeed, of the presence of its enemy, excepting when the thrusts with the ovipositor were made. On drawing a little nearer for the purpose of better observing this interesting operation, the tiny creature took alarm and flew off. Further examination revealed the presence of several more of these little friends, busily searching for further specimens to operate on. The eggs deposited soon hatch into little grubs, which eventually devour the body of their victim, and after it has entered the obrysalis state, eat small holes in the chrysalis, and thus make their escape."

The number of these maggots which live in one chrysalis is often very great, sometimes amounting, according to Curtis, to as many as two or three hundred in the pupa of *P. brassicæ* which is larger than that of *P. rapæ*.

It is proper to remark here that according to Mr. Meldola (*Pro. Ent. Soc. Lond.*, 1876—XXXV) it is *Pteromalus imbutus* that is parasitic on *P. rapæ*. But that the species which infests *P. rapæ* in this country is *Pt. puparum* has been positively determined by Dr. Packard who has compared specimens obtained in this country with European specimens. He states that the usual number found in a single chrysalis of *P. rapæ* is from fifteen to thirty which accords with my observations; but Mr. Couper (*Can. Ent. VI.* 37) states that he has counted as many as ninety-five in one chrysalis.

In the pupa shells which I have opened, some of which are now before me, I find that all the parasites have not escaped, but in each there are more or less dead. As these have passed from the pupa state it is evident they have not been attacked by a second parasite; the question then arises, Have they failed to perfect their organization and acquire sufficient strength to cut their way out for want of sufficient food? Judging from Mr. Curtis' observations this would seem to be impossible, but we must bear in mind the fact that his statements apply to the larger chrysalis of *Pieris brassicæ*.

These little parasites, as may be inferred from what has been stated, undergo their transformations in the body of the chrysalis or pupa; the perfect flies coming out of the summer brood in about two weeks; but those in the fall brood do not make their appearance until the following spring.

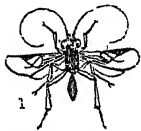
Their multiplication is so rapid that when they make their appearance early in the season where the butterflies prevail, it will be found that the larger portion of the fall pupæ are parasitized. Dr. Packard states, that out of one hundred and ten chrysalids handed him by Mr. Pucnam in September, (1876) all but two were infested. The infested specimens I have examined were obtained chiefly in the northern part of the State, and selected because they were parasitized, hence I am unable to state the proportion.

Although the parasite has made its appearance in my immediate section, it came too late to affect any but the last brood of the past season.

The infested chrysalids of the butterfly may usually be distinguished by the livid and otherwise discolored and diseased appearance of the body.

I do not know that these parasites select any particular point of the chrysalis shell at which to make their escape, but in those I have observed, the place of exit appears to have been generally at or near the point where the abdomen joins the thorax.

FIG. 4.



Microgaster militaris.

In Europe there is a small Chalcid species—*Microgaster glomeratus*, Linn., which attacks the caterpillar, depositing thirty or more eggs in its body, the maggots hatch from these, feed internally upon the worm, weakening it but not destroying its life until they are ready to transform into pupæ—then it dies, and they, yet in the larval state, make their way through the skin and spin little elongate-oval silken cocoons, in masses, beneath and around it.

Although this species, so far as I am aware, has not yet been observed infesting these cabbage-worms in this country, yet cocoons somewhat similar to those made by it have been found about the caterpillars of *P. rapæ*. I insert here a description of it, copied from Curtis:

"It is black and thickly punctured; the horns are thread-like, longer than the body in the male, shorter in the females, and composed of eighteen joints or upwards; the eyes are lateral, with three little eyes or ocelli upon the crown; the abdomen is shorter than the thorax, depressed, linear, smooth and shining; the basal segment is a little narrowed, with the edges on the sides dirty white; ovipositor concealed beneath the abdomen; the four wings are very transparent, iridescent, with a distinct pitchy-colored stigma on the superior; the nervures lighter, the areolet open externally; legs bright ochreous, hinder-thighs black on the upper edge, darkest at the apex, tips of their shanks and tarsi brownish, the apex only of the four anterior brown; length a little more than one line; expanse $2\frac{1}{2}$ lines."

According to this author, the little cocoons are bright yellow. I have found this season, upon the cabbages where the worms had been at work, similar little cocoons, except that instead of being bright yellow, they are of a creamy white; but I have not yet seen the perfect insect.*

Mr. Provancher, of Quebec, was the first to call attention to another parasitic fly, which belongs to the same group as, and resembles, the common house-fly. This is a species of *Tachina*, and the maggot which resides in the body of the cabbage-worm, living on the fatty portions, is, according to Dr. Packard, flattened and sub-cylindrical, with both ends of it rounded much alike; the mouth-parts partly aborted, there being only two retractile horny mandibles, by which the fatty portions of its host are eaten.

There are other Ichneumon flies, which I am inclined to think are, at least occasionally parasitic upon the worm, as I have noticed them frequently about them and on the cabbages where the worms were at work. One, apparently a *Microgaster*, and another, supposed to be a *Pimpla*. Some fifty or sixty cabbages in my garden were devoted to

*Since this was written, Mrs. Thomas has succeeded in obtaining the perfect insect, which appears to be identical with *Microgaster militaris*. (Fig. 4)

the worms the past season, for the purpose of experimenting with them; on some the worms were quite numerous up to November, now it is almost impossible to find a chrysalis, while those bred in cases have long since passed into the pupa state, and most to the perfect insect. The question therefore arises, what has become of the worms on the cabbages? Have they been transformed into butterflies by the warm weather? or have they been destroyed by parasites and other enemies? A few butterflies were seen as late as the first part of November, but not after all the worms had disappeared. Dr. Fitch noticed a spider which he names the "cabbage spider," (*Theridion brassicæ*) feeding on the young caterpillars. This is about one-fifth of an inch long, of a waxy white color, with two black, parallel lines along the middle of the front part of the body; the legs long and slender.

He also mentions and describes another species the "Underleaf spider," (*Theridion hypophyllum*) about the same size as the preceding, with the front part of the body and thighs a bright cherry red; its globular abdomen black and shining.

We may add also as natural enemies, insect-eating birds and domestic fowls; the latter especially, are efficient aids, as will be found by allowing a hen or two with flocks of chickens the range of the cabbage patch, a plan I carried out in 1878, but neglected in 1879.

Artificial Remedies.—Old Vincent Kollar in his work on *Injurious Insects*, says "The best way to destroy them is picking off and killing the caterpillars as well as the pupæ, as far as it is possible; the latter are found attached to adjacent trees, hedges and walls."

Curtis, in his *Farm Insects* says "There are several methods of reducing their number and checking their increase; the best is to look in the winter for the chrysalids, which are concealed under the ledges of walls, pailings, doors, window-sills, on bushes, in hedges, on the trunks of trees, etc., and crush them, but on no account to destroy the dark brown colored ones, which are full of the parasitic *Pteromalæ*. As the spring advances a ring or bag net may be used to catch the butterflies; and when the caterpillars are large enough to be seen, hand picking is neither difficult nor laborious; when they attack the seed crops, shaking the stems might prove useful, provided troops of ducks were to follow and pick up the caterpillars; or dusting the plants with hellebore powder, fresh and genuine would be worth a trial, as it is very effective in some instances."

Boisduval in his *Entomologie Horticole*, gives but one method, that of catching the butterflies with insect nets.

Duponchel, in his *Iconograph of caterpillars*, says the most efficacious way of destroying them will be for the gardeners to employ the children in capturing for slaughter all the white butterflies which are seen flying around their cabbages, as these are mostly females seeking places to lay their eggs; and that by slaying one female before she begins to lay, we destroy an entire generation of caterpillars. He also recommends searching for and destroying the eggs and pupæ.

Dr. Fitch also recommends employing children to capture the butterflies, and placing pieces of boards between the rows of cabbage, elevated two or three inches above the ground, as places for the worms to pupate, when the pupæ can from time to time be collected and destroyed. He also suggests searching the cabbage leaves over and

* Many chrysalis were afterwards discovered on the weatherboards of the various out-houses.

cutting asunder all the worms found, with a pair of scissors. He thinks topical applications of poisonous substances such as hellebore, etc., of no particular value.

Prof. Riley repeats the recommendation to capture the butterflies; and also recommends trapping the pupæ, by placing boards between the cabbage rows. He adds that the "saponaceous compounds of cre-sylic acid are effectual, and without objection as to poisonous qualities."

Subsequent experiments have shown that most, if not all the topical remedies proposed fall far short of affording any substantial relief from the depredations of this pest. Of these I tried the past season, salt, brine, powdered lime, ashes, lye and alder decoction, lime and brine had the least effect, the worms eating away, apparently, without inconvenience when coated over with lime; ashes had very little more effect; a lye made by putting fresh and strong ashes in water and using it at once, proved more effectual than anything else I tried. Salt, where it could be made to reach them, was more effective than the brine. Alder decoction, which, in the hands of some other experimenters, proved of value, was tried too late to give it a fair test. Others have used decoctions of dog-fennel and of knotweed, as they thought, with favorable results; and others dilute carbolic acid. Hot water has long been recommended. In one instance within my knowledge, powdered black pepper was tried, and for a short time did check the worms, and the cabbages, as I afterwards observed generally formed good heads.

Although the list of materials used is a rather long one, yet we are not prepared to say there is no topical application that will destroy the worms without materially injuring the cabbage. The fact that the species has long been injurious in Europe, without such substance being discovered, it is true, renders the likelihood of such discovery very doubtful; and therefore we should seek some other means of counteracting the pest.

I tried the experiment of catching the butterflies, and am satisfied that children from ten to fourteen years of age can soon be taught to do this with ease.

The butterfly moves heavily and rather slowly, alighting especially on cruciferous flowers; a small bed of radishes here and there, if allowed to run to seed, will attract them, and they may then be caught without running among the cabbages, which is one objection to this method of relief. For this purpose a circular ring of heavy wire about twelve or thirteen inches in diameter, with the ends of the wire fixed in a tin socket for the handle, and a sack of musquito-bar or very thin open muslin, about as long as twice the diameter of the ring, with a handle four or five feet long, will answer the purpose very well.

The butterflies are most numerous in the hot part of the day when it is clear and the sun is shining brightly.

I have never heard the question asked, "where do the butterflies rest at night?" nor does it appear that any attention has been paid to this subject. I presume they scatter and find resting places on the bushes, trees, shrubbery, etc., as other species, as it is scarcely probable they would congregate. Still it is barely possible, though not at all probable, that a solution of this question may afford a means of diminishing their numbers.

My experience does not give promise of much aid from the attempt to destroy the pupæ. I have not tried placing boards among the cabbages for this purpose; theoretically the plan appears to be a good one, but there may be practical reasons why it will not succeed, yet it is worthy of being thoroughly tested; but if left to hunt places in which to pupate, the gardener is likely to learn that he can find but few of them. Winter is the proper time for this work, and the fences, sheds and houses the places where they will be found.

As the eggs are scattered singly over the leaves, and are very minute, it will be exceedingly slow work to hunt them out and destroy them.

Killing the caterpillars is, after all, the most certain and effectual means of getting clear of them that can be adopted. It is true, it is somewhat laborious, and to some extent injures the cabbage in attempting to get at them, but Dr. Fitch's plan of using a pair of scissors will partially obviate this, and also somewhat lessen the labor. It is stated, that by placing a leaf on the top of the cabbage in the evening they will be attracted to it and can easily be gathered in the morning; I did not try this, but their known indisposition to leave the leaf on which they are at work would seem to render the advantage of this method doubtful; still it would be well for those who are troubled with them to try it.

During the past season a neighbor succeeded in procuring very fine heads notwithstanding the presence of the pest in large numbers. I was informed by him that his success was owing to the fact that, in the first place his ground was made as rich as possible; in the second place the plants were brought forward a little earlier than usual, some two or three weeks in advance of the usual time; and in the third place were pushed to heading by extra culture, and I believe by tying up the leaves in part. The variety used was the Flat Dutch.

I noticed in several cases that where the cabbages had been planted rather earlier than usual and the heads had formed, the result was favorable, for, notwithstanding all that has been said and written in reference to these worms boring into the heads, if they are firm and well formed they suffer comparatively little.

Certain varieties also appear to suffer less than others, but I am not prepared to state positively as to the names, and therefore can only call attention to the fact.

In concluding my remarks on this species, while I would urge further experiments with topical applications I would recommend to gardeners to rely chiefly on the following means:

Capturing the butterflies, especially the spring brood; killing the worms; earlier planting; selecting the firmest headed varieties; and giving the plants as vigorous growth as possible, by enriching the soil and thorough cultivation.

But the first remedy to be effectual depends upon concert of action.

Since the foregoing was written, I have ascertained that Prof. Riley has experimented thoroughly with the fungus or yeast remedy proposed by Dr. Hagen. He finds not only that it fails to produce an epidemical disease among the cabbage and other worms, but that individuals to which it is applied suffer no inconvenience whatever from it.

I understand from another gentleman with whom I became acquainted at the recent meeting of the Northern Illinois Horticultural Society, that he has seen pulverized cayenne pepper used, but it was of no

avail. Mr. Austin informs me that kerosene, as strong as the cabbage could bear, has been applied with no better effect.

A communication to the society just named, from an experienced gardener, states that during the past season he saved his cabbages by diluting carbolic acid with lime-water. The proportion in which the two are mixed will be given in a note as soon as the communication is published, being now in the hands of the printer. While I think it probable that success in this case was largely owing to careful cultivation and early-formed firm heads, yet this corresponds somewhat closely with the following experience related in the monthly reports of the National Agricultural Department for 1871. Mr. Quinn, the market-garden reporter for the New York Tribune, says that he made use of the following mixture: Twenty parts superphosphate made of slush acid, one of carbolic powder, and three of unslaked lime, mixed well together and dusted thoroughly into each head four times, at intervals of four days. This, he says, was effectual—the lime alone being of no value, and the carbolic powder alone destroying the cabbage, but to this agent he appears to ascribe the efficacy of the mixture.

Prof. J. H. Comstock, in an article to the *Prairie Farmer* of May 26, 1879, makes the following suggestions: "The wholesale destruction of the pupæ gathered from the boards placed among the cabbage does not seem to me to be the best thing to do. As many of them are infested with the parasite, *Pteromalus puparum*, by destroying the chrysalids the parasites are also destroyed. The importance of this point is well illustrated by the following experiment. In a collection of sixty chrysalids of the *Pieris rapæ* made at Ithica, N. Y., fifty-seven were destroyed by this parasite before arriving at maturity."

"I should therefore recommend the collecting of the pupæ from the boards, but instead of destroying them place them in a box covered with a wire screen or a piece of mosquito netting. The chalcids flies are so minute that upon maturing and emerging from the chrysalids they can readily escape through the meshes of the netting and go on with their work of exterminating the mischievous larvæ; on the other hand the butterflies not injured by the parasite, being unable to escape from the box, can be killed or allowed to die in their prison. Another remedy I would suggest is the use of hot water, as this has been tried with success in many instances. Water heated to 140 degrees fahrenheit will not injure the plant and will destroy the worm very effectually. It should be applied by a watering pot so that the plant may be thoroughly drenched in all the infested parts."

The following statement from another correspondent is found in the same paper: "It is said that cayenne pepper sprinkled over cabbage plants is a sure preventive of worms, destroying them and not injuring the plants. It would probably be more effectual if a light tincture were made and the plants lightly watered with it. My experience with the green cabbage worm was of benefit to my neighbors as well as myself. On their first appearance there were hundreds. I dusted black pepper over them before the dew was off. After the second application only twelve worms remained on 130 heads of cabbage. I sent them to bug heaven by rubbing turpentine on their backs with a feather and now our patch is entirely unmolested."

Mr. Saunders remarks (*Can. Ent. Oct. 1878*) that strong decoctions of cayenne pepper and smartweed have been highly recommended.

THE SOUTHERN CABBAGE-BUTTERFLY.—*Pieris protodice*. Bd. Lec.

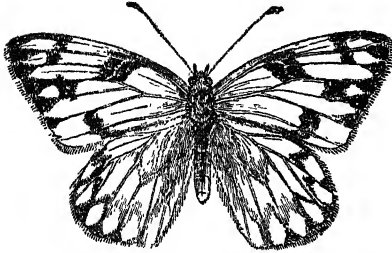


FIG. 5.—Southern Cabbage Butterfly.

each other and extending the whole length of the body; each of these lines has two blue dots in them on each segment; the under side a paler green, flecked with dark dots; head usually the same color as the body. Rather largest in the middle and tapering slightly toward each end; the sutures between the segments more distinctly marked than in the other species. This, as well as the larvæ of the other species, has sixteen legs, six near the head, eight ventral, and two on the

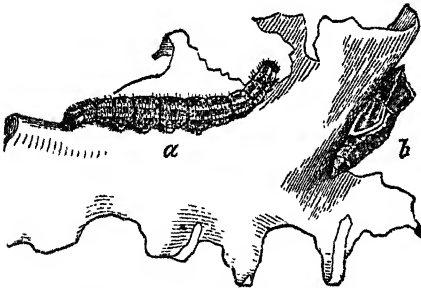


FIG. 6—*a*, Larva. *b*, Chrysalis.

The figures of the butterflies given here will sufficiently distinguish this from the other species. The ground color is a dull white without any tinge of yellow; the female, which is the larger of the two sexes, (Fig. 5) has, the outer margin of the fore wings marked with a row of triangular black spots; there are also four trapezoidal black spots placed as shown in the figure. In the male, the black markings are similar in form and position so far as they appear, but generally the marginal line and posterior spot are wanting or but faintly represented; and the hind wings are without the gray shading so distinct in the female. Expansion of the wings varies from one and three-fourths to two and one-half inches.

Found throughout the State and very common, but only occasionally seriously injurious to cabbages.

This and the following species are inserted here only for the purpose of enabling those who receive this but are not in possession of my former reports to distinguish the species of this genus, which are found occasionally infesting cabbage in Illinois.

The caterpillar is of a greenish blue color, with four longitudinal yellow stripes equally distant from each other and extending the whole length of the body; each of these lines has two blue dots in them on each segment; the under side a paler green, flecked with dark dots; head usually the same color as the body. Rather largest in the middle and tapering slightly toward each end; the sutures between the segments more distinctly marked than in the other species. This, as well as the larvæ of the other species, has sixteen legs, six near the head, eight ventral, and two on the posterior segment. Length, when full grown, about one inch and one-eighth. When newly hatched they are of a uniform orange color, with a black head, but become a dull brown before the first moult.

The chrysalis differs but slightly from that of *P. rapæ*; it is generally a light blueish gray, more or less speckled with black, the ridges edged with buff or reddish. The anterior point is usually less acute than in *P. rapæ*.

THE POTHERB BUTTERFLY. *Pieris oleracea*. Boisd.

This species is easily distinguished from the others here mentioned, the butterfly being entirely white or yellowish white, without spots; the wings are, as in the others, somewhat dusky at the base but there are no black spots on either the anterior or posterior wings; they are more or less tinted with yellowish or straw color, especially on the underside.

The caterpillar is of a dark, velvety green color, somewhat uniform in size throughout its length, without any distinct stripes; segments not very distinctly marked; length when fully grown one inch and a quarter to one inch and a half.

The chrysalis is pale green or white, finely dotted with black; the anterior point is generally rather more prolonged than in either of the other species.

This species is found only in northern latitudes, its range in this State not extending even to the central portion, so far as I am aware.

NORTH AMERICAN SPECIES OF *PIERIS*.

I have concluded to give here, for the benefit of the readers of this report, a short account of the North American species of this genus, with some remarks in reference to the habits and geographical distribution of the species.

As has been truly remarked by Rev. J. G. Wood (*Insects at Home*), common as these butterflies are, they have raised quite a controversy among entomologists, and have been shifted backward and forward until it is scarcely possible to reconcile the conflicting views. I shall therefore treat the genus as employed by Boisduval and as Dr. Morris defines it in his synopsis, with such restrictions as appear to be required by the most recent authorities.

In this sense it may be distinguished from the closely allied genera by the antennæ not being truncated and having the club ovoid and compressed; the palpi less compressed, with the last joint always nearly as long as the preceding; by the less robust body, and the thinner wings, which, at least so far as our species are concerned, have the ground color white or at most with but a faint tinge of yellow, and often more or less spotted with black.

They never have those central silvery or ferruginous spots which are always present on the underside of the wings of the *Colias* or sulphur butterflies.

In order to illustrate the difficulty economic entomologists' experience in attempting to present to non-scientific readers, in a work of this

kind, general conclusions, I will give here the lists of the North American species of *Pieris* as given by three authors, Dr. Morris, Mr. Edwards and Mr. Strecker. The latter will, as a matter of course, include species described since Dr. Morris' Synopsis was published, but as will be perceived by the lists which show the names considered as synonyms, which are unnumbered and belong to the numbered name under which they are respectively placed, there is little unanimity in reference to what are true species.

MORRIS.	EDWARDS.	STRECKER.
1. <i>Monusta</i> . Hub. <i>Orseis</i> . Godt. <i>Cleomes</i> . Boisd.	1. <i>Oleracea</i> . Boisd. <i>Casia</i> . Kirb. <i>Cruciferarum</i> . Boisd.	1. <i>Napt</i> . Linn. <i>Venosa</i> . Scudd. <i>Nasturtii</i> . Boisd. <i>Pallida</i> . Scudd. <i>Iberidis</i> . Boisd. <i>Castoria</i> . Reak. <i>Resedae</i> . Boisd.
2. <i>Protodice</i> . Boisd.	2. <i>Frigida</i> . Scudd.	2. <i>Virginiensis</i> . Edw.
3. <i>Sisymbrii</i> . Boisd.	3. <i>Castoria</i> . Reak.	3. <i>Rare</i> . Linn. <i>Marginalis</i> . Scudd. <i>Yreka</i> . Reak. <i>Novanglia</i> . Scudd.
4. <i>Leucodice</i> . Eversm.	4. <i>Resedae</i> . Boisd.	4. <i>Monuste</i> . Linn. <i>Cleomes</i> . Boisd. <i>Orseis</i> . Godt. <i>Albusta</i> . Sept. <i>Phileta</i> . Fabr. <i>Suasa</i> . Boisd.
5. <i>Autodice</i> . Hub.	5. <i>Yreka</i> . Reak.	5. <i>Protodice</i> . Boisd. <i>Vernalis</i> . Edw.
6. <i>Oleracea</i> . Harr.	6. <i>Venosa</i> . Scudd.	6. <i>Occidentalis</i> . Reak.
7. <i>Casta</i> . Kirb. <i>Cruciferarum</i> . Boisd.	7. <i>Nasturtii</i> . Boisd.	7. <i>Sisymbrii</i> . Boisd.
8. <i>Menapia</i> . Feld.	8. <i>Marginalis</i> . Scudd.	8. <i>Chloridice</i> . Hub. <i>Beckeri</i> . Edw.
9. <i>Frigida</i> . Scudd.	9. <i>Pallida</i> . Scudd.	9. <i>Calyce</i> . Edw.
10. <i>Venosa</i> . Scudd.	10. <i>Iberidis</i> . Boisd.	
11. <i>Marginalis</i> . Scudd.	11. <i>Protodice</i> . Boisd.	
12. <i>Pallida</i> . Scudd.	12. <i>Occidentalis</i> . Reak.	
13. <i>Tau</i> . Scudd.	13. <i>Sisymbrii</i> . Boisd.	
	14. <i>Vernalis</i> . Edw.	
	15. <i>Beckeri</i> . Edw.	
	16. <i>Monuste</i> . Linn. <i>Cleomes</i> . Boisd. <i>Orseis</i> . Godt.	

In the midst of this confusion it is difficult to come to a satisfactory conclusion as to which are true species and which mere varieties unless we had specimens of each before us, and even then we should find ourselves still involved in doubt. I shall therefore undertake nothing more than to present some remarks that may be of some value especially to young Entomologists who are studying our butterflies, and which will give a general idea of the characteristics and distribution of the species.

First we may lessen the list by eliminating those in reference to which there appears to be now a general agreement that they are but varieties or foreign.

Orseis and *Cleomes* are but synonyms of *Monuste*; *Leucodice* and *Autodice* of Morris' list are foreign and not represented in this country; *Casta* and *Cruciferarum* are synonyms or varieties of *Oleracea*; *Menapia* does not belong to this genus and *Tau* is but a synonym or at most but a variety of that species, and hence does not belong to *Pieris*. The following may also be omitted as confessedly synonyms, varieties or unknown in this country; *Resedae*, *Nasturtii*, *Iberidis*, *Hukla*, *Novanglia*, *Albusta*, *Phileta*, and *Suasa*.

Monuste is a tropical species found in the extreme southern states, West Indies and southward to Brazil.

Protodice, which has already been described, according to Mr. Strecker, is found throughout the United States from the Atlantic to the Pacific and from the Gulf to British America. *Vernalis*, Edw., as shown by the observations of Mr. Bean, and as acknowledged by Mr. Edwards, is but a variety of this species. It is rather smaller than the typical form, and has the underside of the veins broadly bordered by greenish-gray or pale olive-brown. It appears early in the spring and late in the fall thus indicating that it is produced by the colder weather of these seasons.

According to Mr. Scudder, *Protodice* is the American representative of the European *Daphidice*, the Alpine *Callidice*, the Siberian *Leucodice*, the South American *Autodice*, the Arabian *Glaucónome* and the South African *Nellica*.

Sisymbrii, Boisd., is found in California and appears to be confined to the Pacific Slope and is very closely allied to *P. napi*, Linn. It is possibly a variety of *Oleracea*.

Napi, Linn., has been introduced by Mr. Strecker into the list of North American species, under which he has placed as varieties *Oleracea* and several other species. Without attempting to discuss the propriety of this course, we prefer to follow the generally accepted opinion, omitting *Napi* from our list and considering *Oleracea* as a distinct species.

Oleracea, Harr., is, as heretofore stated, a northern species extending south as far as the Middle States, even to Virginia, northward to Slave lake, in British America, and westward at least to Colorado and probably the Pacific slope.

Frigida, Scudd., which is found in Labrador, is beyond any reasonable doubt a variety of this species. *Pallida*, as Strecker indicates, is in all probability another variety, which represents the species on the western coast. *Iberidis*, Boisd., *Castoria*, Reak., and *Resedae*, Boisd., are doubtless, as Mr. Strecker considers them, synonyms of *Pallida*, all being found on the Pacific slope.

Venosa, Scudd., appears to be the American representative of the European *Napi*, and Mr. Strecker has probably introduced the latter in our list because he considers *Venosa* as belonging to it. But it is perhaps best to follow Messrs. Scudder and Edwards in this case, and consider it as a distinct species although very doubtful. I would not be surprised if after all it should ultimately prove to be but a variety of *Oleracea*. *Nasturtii*, Boisd., appears to be another name of the same species; and *Marginalis*, Scudd., but a variety scarcely distinguishable by the description.

Beckerii, Edw., which is found in Nevada and Utah, is considered by Mr. Edwards as a distinct species; but Mr. Strecker gives it in his catalogue as a synonym of the European, or rather, Northern Asiatic, *Chloridice*, Hub. Judging from the beautiful figures of it in Mr. Edwards' work, I should say it was but a western variety of *Protodice*, produced by the climatic conditions of the section in which it is found.

Occidentalis, Reak., which is considered by both Edwards and Strecker as a good species, is closely allied to *Protodice* and may ultimately be found to be only a western variety of that wide spread and somewhat variable species. It has been found only in Colorado and Nevada, and hence the name *Occidentalis* or Western.

Virginiensis, Edw., is also admitted into the lists of some authorities as a good species, but it is an unspotted insect, so closely allied to *Oleracea* that there would appear to be no substantial grounds for considering it as distinct. The only difference noticeable, is a slight grayish brown shade on the basal portion of the wings above. It has been found in Virginia and Mr. Saunders states that he has also found it in Canada. The larva, in color and markings as well as habit, agrees exactly with that of *Oleracea*, hence we think it safe to consider it but as a variety of that species.

Yreka, Reak., is certainly very closely allied to *Rapæ*, and hence Mr. Strecker, who has the type specimens in his possession, appears to be fully justified in connecting it with that species. As *Rapæ* is found in Siberia and a large portion of Northern Asia, it would be nothing strange to find it in California, the locality from which Mr. Reakirt's specimens were obtained.

Novangliæ, Scudd., is confessedly but a yellow variety of *Rapæ*.

Calyce, Edw., appears to be recognized as a true species. It is found in Nevada and California, and is closely allied to *Sisymbrii*.

For our present purpose—but without any attempt to decide critically in reference to what are true species, as this must be decided by those who make the butterflies a special study—we will adopt the following arrangement:

- | | |
|----------------------|------------------------|
| 1. OLERACEA. Harr. | Nasturtii. Boisd. |
| Pallida. Scudd. | Marginalis. Scudd. |
| Iberidus. Boisd. | 4. MONUSTE. Hub. |
| Castoria. Reak. | Hippomunuste. Hub. |
| Reseda. Boisd. | Cleomes. Boisd. |
| Cruciferarum. Boisd. | Orsels. Godt. |
| Cast. Kirb. | Albusta. Sepp. |
| Frigida. Scudd. | Phileta. Fabr. |
| Hulda. Edw. | Sunsa. Boisd. |
| Borealis. Grote. | 5. PROTODICE. Boisd. |
| Virginiensis. Edw. | Vernalis. Edw. |
| 2. RAPÆ. Linn. | Beckeri. Edw. |
| Yreka. Reak. | 6. OCCIDENTALIS. Reak. |
| Novangliæ. Scudd. | 7. SISYMBRII. Boisd. |
| 3. VENOSA. Scudd. | 8. CALYCE. Edw. |

I give here descriptions of some of the most prominent species and varieties:

1. P. OLERACEA.

In addition to what has already been given, I should state that the body is black; antennæ blackish, annulated with white; ochreous at the end of the club.

- a. *Pallida*.—Above, very pale-yellowish, nearly white; base of both wings and basal half of costal border of primaries dotted with grayish scales; whole costal edge of primaries black; the male has, in addition a band of grayish scales on the posterior border of primaries, as in the male of *P. venosa*, turned abruptly towards, and sometimes interrupted at the angle, extending to the third inferior nervules; and in the middle of the space between first and second inferior nervules, as in both sexes of *P. venosa*, a cluster of grayish scales.

Beneath, secondaries and apex of primaries yellowish, with sometimes a few indistinct grayish scales scattered along the nervures, otherwise quite immaculate.

Body, above black, with scattered yellowish hairs, beneath yellow; antennæ as in *P. venosa*. The wings expand two inches.

(Scudder.)

- b. *Castoria*.—Size and form of *Pieris oleracea*; *Male*, upper side pure white, inner half of costa of primaries, and base of both wings, strewn with a few dark atoms; a rounded black spot in the medio-superior interspace of the fore wings, situate as in the preceding species; no other markings; fringes white, expanse 2 to 2.12 inches. Underneath immaculate white; a faint yellowish tinge on the apex of the primaries, and along the costa of the secondaries. Body black, with whitish hairs below; antennæ black, with incomplete white annulations interrupted above. Club yellowish, or yellowish brown at tip. (Reakirt.)
- c. *Casta*.—Antennæ black, annulated with white; wings white; primaries at the anterior margin, sprinkled with blackish; secondaries, underneath, with a few scattered black scales accompanying the nervures; wings rounded and very entire. (Kirby.)
- d. *Frigida*.—The shape of the secondaries of the male *frigida* is as in the female of *oleracea*, those of *frigida* being proportionally narrower across the hind margin, and broader across a line parallel to it, near the base of wing, than in the same sex in *oleracea*; or in other words, the secondaries of *frigida* are relatively more quadrate, and those of *oleracea* more triangular; the outer half of the costal border of the secondaries is slightly more docked in *frigida* than in *oleracea*; the dark narrow line which follows the costal border of the primaries extends around over rather more than half the outer border of the wing, while in *oleracea* it seldom extends beyond the tip, and very rarely half way round the outer border; the nervures on the under surface are more heavily marked than in the darkest individuals of *oleracea*, though the markings are in the same locality, such as the outer and uppermost nervures of the primaries, the median nervure, the nervures of the secondaries, except the discal, the inner margin next the base, and a band crossing the cell, which is the extension of the third superior nervule; the markings of the primaries are heaviest towards the outer border, those of the secondaries away from it; the costal border of the secondaries at base is slightly tinged with saffron; the color of the under surface of the wings is slightly dirty white, tinted with very pale greenish yellow, especially noticeable on secondaries and upper half of primaries; when any color is present on the primaries of *oleracea* it is confined to the tip; it differs further from *oleracea* in having the black scales at base of both wings above more profuse and widely spread, frequently bordering the nervures quite broadly; indeed grayish scales are more or less scattered over the whole of the upper surface, giving the insect a grim appearance, increased rather than diminished by the slightest possible yellowish tint. (Scudder.)
- e. *Hulda*.—A variety with the veins of the under surface so heavily accompanied by blackish-green scales that but little of the pale-yellow ground color of the wing is visible.
- f. *Borealis*.—This is given as a mere variety by Mr. Grote. The markings on the veins are much darker and broader than usual, especially beneath. The species thus resembles *frigida*, but the elongated form of the hind wings peculiar to *frigida* is totally wanting. This is a renewed example of the interesting fact that

white butterflies assume darker colors when inhabiting elevated localities or higher latitudes. (Grote.)

- g. *Virginicensis*.—Male expands 1.7 inch.

Upper side white, less pure than *Oleracea* and much obscured by grey brown scales, which are scattered over the whole surface, but are dense on apex, costa and basal half of primaries, at the base and along the subcostal and median nervures of secondaries; a grey patch also on costa of secondaries.

Under side white, the nervures all bordered with grey brown, most conspicuously on sub-median of both wings and the branches of this nervure on secondaries; shoulder pale orange.

Body above blue-grey, beneath white; palpi white, tipped with grey; antennæ blackish above, finely annulated with white below; club black, tipped with yellowish.

Female, expands 1.9 inch.

Similar to male, the surface usually still more obscured.

This species is allied to *Oleracea*, from which it may be readily distinguished by the shape of its wings, which are longer and narrower; by their texture, which is more delicate, and by the constant presence of grey scales over the surface. In the Kanawha district it replaces *Oleracea* which is yet unknown there. It is not uncommon in the month of May, frequenting open woods rather than gardens, and in this respect differing in habit from the allied species. I have never met with it later than June, though *Oleracea* in the northern States, is most abundant after that month and continues breeding till the early autumn frosts. (Edwards.)

2. *P. RAPÆ*.

This species has been already fully described, the following are descriptions of the varieties.

- a. *Yreka*.—Size and form of *Pieris rapæ*; Male, upper side white, base sprinkled with black atoms extending along the costa of the primaries as far as the end of the cell; a narrow, black, terminal line at the apex, and below this, a few scattered black specks; a rounded black spot on the medio-superior interspace, midway between the cell and the margin. Secondaries with a small black spot on the costa, at two-thirds its length from the base; fringes white, expanse 1.88 inches.

Underneath, the apex of the primaries is pale ochrey-yellowish; an additional small black spot is in the medio-inferior interspace, otherwise as on the upper surface. Secondaries pale ochrey-yellowish, thickly strewn with grayish or greenish-brown atoms, especially condensed towards the base; costa yellowish-orange.

Body above black, with scattered whitish hairs; below white. Antennæ black, ringed with white; club tipped with white.

Female differs in having a large triangular apical patch, brownish-black, of which the lower portion is densest, upon the primaries, and in the enlargement of their central black spot, and also in that of the costal one upon the secondaries.

Below, the primaries, as in the male, the hind wings much more yellowish. (Reakirt.)

- b. *Novanglicæ*.—This variety differs remarkably from the normal forms of *Rapæ* in the color of both surfaces of the wings; these, if we except the dusky markings, are of a sulphur-yellow, approaching in depth of color the wings of the *Eurema Lisa*.

3. *P. VENOSA*.

Above, white tinted with very pale greenish-yellow; base of all the wings black, and costal border of primaries with a black band, extending about half its length; extremities of upper nervules of primaries broadly margined with black scales, with a spot of the same color in the middle of the space between first and second inferior nervules; a black dot at the tips of the nervules of secondaries. The female differs from the male in having nearly all the nervures on upper side of primaries somewhat bordered with grayish scales, and the extremities of the lower nervules almost equally with the upper; but most characteristically by the presence of a band of grayish scales along the posterior border of primaries, which is bent abruptly upwards in the direction of the spot in the space between first and second inferior nervules, and continues to third inferior nervule, sometimes interrupted at the angle.

Beneath, as in the darker forms of *P. oleracea*, with the ground color slightly more highly colored than the upper surface; the nervures of the secondaries being heavily, and those of the primaries more narrowly bordered with grayish scales, with a saffron-colored spot at the base of costa of secondaries. Antennæ black, with incomplete white annulations interrupted above; tip of club yellowish; body black, with whitish hairs beneath; the wings expand from 1. 5 to 2 inches. (Scudder.)

- a. *Marginalis*.—This species is most closely allied to the preceding, (*P. venosa*.) The ground color is as in *venosa*, but almost devoid of markings; base of all the wings black; costal border of primaries with a narrow black band, extending about half its length; a few grayish scales at the tip of wings; outer edge of primaries and posterior edge of secondaries with a very fine black line, slightly swollen at the tips of the nervures; fringe white; beneath, as in *P. venosa*, with the secondaries and apex of primaries more yellowish; males and females alike in their markings.

Body black with some white hairs above, and a considerable number of yellowish-white ones beneath; antennæ as in *P. venosa*. The wings expand two inches.

(Scudder.)

4. *Monuste*—male.—Upper surface of primaries white with a black border, wider at the summit, serrated within. Upper surface of secondaries entirely white in the males. Under surface of primaries white, with the border pale brown or yellow ochre.

Under surface of secondaries yellow ochrey, more or less pale, with the border pale brown, and a saffron spot at the base.

The female has an arcuated black line on the middle of the primaries, and a marginal series of black triangular spots in the secondaries.

Body white; thorax obscure; shoulders grayish; neck ferruginous. Antennæ black, annulated with white; tip of the club greenish. Expands two to three inches. (Boisduval.)

a. Phileta.—This is a smoky or dark form of the female.

5. *P. PROTODICE*:

This species has already been sufficiently described, and as heretofore stated, is the most common native species met with in Illinois.

a. Vernalis.—Male. Expands 1.7 inches. • Upper side white; primaries have small black serrated spots at the extremities of the apical nervures, preceded by an imperfect abbreviated row of small black patches; a black bar on the arc. Secondaries more delicate, showing the markings of underside.

Underside of primaries white; the spots reproduced, but pale colored and dilated, those at the apex tinged with greenish gray; an additional black patch on sub-median interspace, sometimes wanting. Secondaries have all the nervures broadly edged with greenish gray so that none of the white surface appears, except in narrow stripes in the cell and interspaces; near hind margin a band formed by gray serrations connecting the nervules. Body covered above with blue gray hairs; beneath, thorax grey white, abdomen yellow; palpi yellowish; antennæ black above, annulated below with white; club black tipped with ferruginous.

Female. Expands 1.8 inches.

Color less pure, similarly marked, the spots larger, the discal bar conspicuous; secondaries show clusters of grey scales on costa and at outer angle and in the interspaces on the margin; underside as in the male. (Edwards.)

b. Beckeri.—Primaries produced apically, slightly excavated on costal and hind margins.

Male. Expands 2 inches.

Upper side pure white, the texture of secondaries slighter than that of primaries, discovering the spots of under surface; base of wings not powdered with black as in allied species; primaries have the apical half of the hind margin bordered by small black patches or clusters of scales diminishing in size to middle of margin; anterior to these two similar sub-apical patches and a third in upper median interspace; on the arc a dense black sub-rectangular spot not reaching the costa) with central white streak. Secondaries immaculate. Fringes white except against the apical spots, there black.

Underside white; the nervules at apex and on upper hind margin bordered by black scales and suffused with greenish yellow; the spot on interspace black, and as on upperside; cellular spot enlarged, its base broadened and posterior edge excavated.

Secondaries have all the nervures and their branches yellow; those terminating on hind margin edged by broad bands of yellow green reaching from middle of disk and connected anteriorly; three large spots of same color about the cell, two being at the outer angles, and one above and reaching the costa; another large triangular sub-apical spot on costa; the nervures at base also banded with

green; all these bands and spots slightly sprinkled with black scales. Body above covered with grey hairs; beneath, abdomen yellowish, thorax white; legs white; palpi white, gray on upper side and at tip; antennæ white above and at base below, beyond brown; club black, nearly covered with rows of white scales; tip pale fulvous.

Female.—Expands 2 inches.

Primaries less produced and broader than in the male, same shade of color; the marginal spots enlarged and extended to second branch of median; in addition to the three submarginal spots, which are also enlarged, is another in submedian interspace and a streak below this along inner margin; the cellular spot much enlarged, rhomboidal, with slight central streak; secondaries have a patch on costa and four on the marginal nervules commencing at and posterior to subcosta, also an interrupted sub-marginal stripe opposite cell, posteriorly indistinct; underside as in male except that a round black spot appears in submedian interspace on primaries.

(Edwards.)

6. *P. OCCIDENTALIS*.

This species, as before stated, is closely allied to *Protodice* and *Beckerii*, but according to Edwards is abundantly distinct from them.

7. *P. SISTIMBRII*:

Upper side white; primaries with a subcostal spot; a transverse, interrupted ray and some longitudinal streaks at the end of the nerves, blackish brown; secondaries without spots. Under side of primaries similar to the upper, except the streaks, which are powdered with greenish brown. Underside of secondaries white, with the nerves widely edged with greenish brown, dilated towards the marginal edge and nearly united between this edge and the cellule by a transverse ray; obsolete, more or less interrupted. (Boisduval.)

In reference to the habits and to the larvae of most of these species and varieties, except the three most noted, *Rapæ*, *Oleracea* and *Protodice*, but little appears to be known.

The larvæ of *Monuste* is violet with yellow longitudinal lines; the head, feet, and under surface of the body yellow or greenish-yellow. It feeds on a species of *Spider Flower*,—(*Cleome pentaphylla*) which belongs to a group of plants much resembling the crucifera, though more acrid in their properties.

The specimens upon which Mr. Edwards founded his *Beckerii* were taken at Virginia City, Nevada, in April, on flowers of Brassica.

The habits of *Virginensis* are thus described by Mr. Edwards. "In the Kanawha district it replaces *Oleracea*, which is yet unknown there. It is not uncommon in the month of May, frequenting open woods rather than gardens, and in this respect differing in habit from the allied species. I have never met with it later than June, though *Oleracea*, in the northern states, is most abundant after that month and continues breeding till the early autumn frosts." He states that he has received specimens from Mr. Saunders, of London, Canada, who informed him it was a rare insect there.

"The larvæ of this group of *Pieris* feed upon garden vegetables, Brassica, Raphanus, Nasturtium, and allied plants in a wild state, and are sometimes exceedingly destructive. The female butterfly deposits great numbers of long slender pointed eggs upon the under-

side of the leaves, often a score or more upon a single leaf. These eggs are greenish white in color, and stand at right angles to the surface. To an inexperienced person they might seem to be eggs of some fly, or the result of a disease of the leaf itself, but they would not be suspected to be the eggs of any butterfly.

"In four or five days the young larvæ emerge, one tenth of an inch in length, green in color, requiring a keen sight to discover them. At once they attack the leaf eating a small hole, and to the margin of this they return when disposed to feed, till all the surrounding parts are eaten away. The large leaves of horse-radish may be entirely consumed in this way leaving but the skeleton untouched.

"When at rest the larvæ lie extended upon the surface of the leaf, generally along one of the ribs or in a depression, and as they retain their green color to maturity they are effectually screened from notice. When mature they are about one inch in length, cylindrical, covered with fine white papillæ from each of which is emitted a single short hair. The chrysalids are brownish white marked anteriorly by a few points and short lines of black, and are distinguishable from those of any other genus by angular ridges on the back of the wing covers and head. They may be attached to fences and buildings near the food plant or to the plants themselves. This description will apply either to *Oleracea* or *Rapæ* which, in both larval and chrysalis states are extremely alike. And doubtless will be found to apply as well to the same stages of *Virginensis*."

The larvæ of *Napi* and *Oleracea* and of all their varieties, so far as known, feed on the leaves of cabbage, turnips, radish, mustard and other cruciferous plants. Those of the *Rapæ* and its varieties feed on cabbage, turnips, horse-radish, mignonnette and some other plants.

A few words in reference to the characteristics and habits of some of the more noted foreign species may be of some advantage in this connection.

P. BRASSICÆ, Linn.

Which has so long been noted in Europe as the foe of the cabbage is thus described:

Both sexes have the upper surface of all the wings white, with the tips of the anterior wings above, black, the patch on its inner edge being indented, the points of the indentations following the direction of the nervures, and the extreme tip being slightly irrorated with white, with the cilia waved with black and yellowish; the female has also two roundish transverse spots on the disc, and an elongate triangular one on the inner margin of the wing; the costa and base of the anterior wings are irrorated with dusky, and sometimes tinged with yellowish; and the posterior wings have a black costal spot; the under surface of the anterior wings in both sexes is similar; the tips being yellowish, the base slightly irrotated with dusky, and two transverse spots adorning the disc: the posterior wings are pale yellowish beneath, with a very obsolete costal spot, and are rather thickly sprinkled with dusky, especially in the female; the body and antennæ are black above, and white beneath, the latter having an interrupted brown line from the base to the capitulum, which gives them the appearance of being annulated, the capitulum itself is yellowish at the tip.

(Stephens.)

The caterpillar is greenish, with three yellow longitudinal lines, one along the back, the others on the sides; between these are several tubercular black spots, each bearing a pale hair; the tail is black; when full grown it is about an inch and a half long. The chrysalis is greenish gray spotted with black, with some yellowish stripes. In England this species appears about the middle or first of May, and about the end of the month deposits its eggs in clusters usually on the underside of cabbage leaves. The caterpillars soon hatch and continue to feed together till about the end of June. This summer brood remains in the pupa state, as a general rule, about sixteen days. Mr. Stephens, from whom I chiefly take these statements, remarks that during one season, when the species was very abundant the pupation of one brood was completed in seven days.

P. napi, Linn.

As Mr. Strecker has introduced this species into the North American list I give a description of it and also of some of its European varieties, which were for a time supposed to be distinct, as a means of comparison.

Wings above, white, with the tip of the anterior dusky; the male with a black spot between the middle and hinder margin of the anterior wings, the under surface of these wings has the nervures dusky, with the tips pale yellow, and two dusky spots towards the hinder margin; the posterior wings beneath, are pale sulphur yellow, with the nervures much dilated and dusky greenish; the nervures on the costal edge of the discoidal cell with a clear yellow dash. The female has the anterior wings more rounded than the male, with two large black spots placed transversely and an obscure claviform dash towards the thinner edge; both sexes have a black costal spot on the posterior wings above; the body black with its under part white; the antennæ white, annulated with black.

Var. *a*—with the base of all the wings in both sexes deep black.

Var. *b*—Male with the anterior wings immaculate above, with one indistinct spot beneath; the base of all the wings above, clear black.

Var. *c*—Both sexes with the nervures of the posterior wings dilated at the base beneath.

Var. *d*—Female with the wings yellowish above.

Var. *e*—Dilated nervures of the posterior wings beneath, dusky in both sexes.

The caterpillar is greenish-brown, clearer on the sides, with the stigmata yellowish; it is covered with white tubercles with black tips bearing very delicate hairs. It feeds on the *Brassica napus* and similar plants, like its congeners. The chrysalis is greenish-yellow, spotted on the head and back; with the anterior edge of the wing-cases strongly spined.

Var. *Napæ*—Like its congeners, this species varies considerably; the male has the upper surface of the wings milk-white, with the tip, a spot, and two or three triangular dashes on the hinder margin of the anterior, black; beneath, the latter have slightly dilated greenish nervures, with two cinereous spots placed transversely, and a yellowish tip; the posterior wings are pale yellowish with a deeper costal streak; the

basal nervures above dilated and greenish. The female has the tip of the anterior wings, and three spots, one of which is sub-triangular, and placed on the thinner edge of the wings, black or dusky, and the posterior wings are clearer yellow. The nervures on the under surface of the posterior wings, are more or less dilated in different specimens.

Var. *a*.—Female without the transverse cinereous spots beneath.

THE CABBAGE PIONEA.—*Pionea rimosalis*, Guen.

The advent of the European Cabbage butterfly in the immense numbers seen the past summer (1879) was sufficient to discourage our gardeners in their efforts to raise the valuable esculent which is the especial object of the attacks of the larvæ. I had battled with these caterpillars for a month or so, devoting a large share of my cabbages to their use for the purpose of experimenting with them and studying their habits, the results of which are given in the preceding pages.

When cold weather should have set in according to the usual custom of this climate, I thought I had succeeded in saving the portion I had undertaken to save,—but a warm spell coming on, and having neglected them during a few days absence from home I was surprised on going into the garden after my return to find the outer leaves of those which were comparatively uninjured when last seen, thoroughly riddled with elongate, oval holes. This rather unusual appearance soon attracted my attention by its singular uniformity,—I had noticed before this, now and then a leaf riddled in this way by the larvæ of *Pieris rapæ*, but the uniformity in the shape of the holes and the extent of the work, appeared to me to be something different from what I had seen before.

Immediately on my return home, my assistant, Miss Middleton, had remarked to me that another worm was at work on the cabbage, and doing more mischief than the larvæ of *P. rapæ*. I paid but little attention to the remark at the time, supposing it to be the larvæ of our native species; *Pieris protodice*, but I was soon undeceived by an examination. To my dismay I found a new and hitherto unknown enemy of the cabbage, a new cabbage worm; not one here and another there at rare intervals, but more numerous, if possible than the green larvæ of the cabbage-butterfly, and working away with all the energy of which their caterpillar nature seemed possessed. It was too late now to save my esculents, but I had the mournful satisfaction of knowing that I could be the first to inform the world of this new cabbage pest. I should have experienced a far greater satisfaction had I been able to make known to our gardeners and farmers the fact that some hitherto destructive insect had, like the Dodo, become extinct.

Fortunately Miss Middleton had some in the breeding cases already in the chrysalis state from which soon afterwards the moths issued, thus affording an opportunity of determining positively the species.

Feeling an uncertainty in reference to the determination of the species, as I had nothing in my cabinet like it with which to compare it, and finding no notice of a similar species injuring cabbages in this country, I forwarded a specimen to Dr. Grote for examination; he kindly informed me that it was the *Orbena rimosalis*, Guen. I have adopted the older and more comprehensive generic name as one more easily referred to than the more restricted genus in which Dr. Grote places it, although the latter is the one in which it belongs as the genera are now restricted.

The eggs were not observed, hence it is impossible to say any thing positive in reference to them; as a matter of course they are deposited on the plants on which the worms are found feeding; from the fact that the worms when quite young were associated in considerable numbers on the same cabbage and often close together, I presume the female deposits a number of eggs at one point, probably near the base of the outer leaves and most likely on the inside.

The caterpillar, when full grown, is six or seven tenths of an inch long; with sixteen legs; is slender and slightly flattened. Head, dull greenish-yellow, with a few scattering hairs on it; mouth parts dusky. The dorsal portion of the body, down to the breathing pores, purplish brown, with two or three white, transverse lines on each segment, but these extend laterally only to the margin of the sides and not to the lower margin of the brown area; a narrow pale yellowish line along the region of the breathing pores; underside pale green. On the sides, along the lower margin of the brown color, there is a minute, shining, black tubercle on the middle of each segment; each supporting a stiff black hair; in the yellow line there is a black dot at each breathing pore. The black tubercle of the first segment is on the margin of the dorsal shield; and those on the second and third segments are drawn up toward the back so that they are not in a line with those on the remaining segments. On each side of the back, just within the margin enclosed by the white transverse lines, on the middle of each segment, is a small white tubercle surrounded by a black ring; each supporting a hair. Between this upper row of white tubercles, or small pimples, and the lateral row of black ones, is another row of small black dots or pimples, one on each constriction between the segments, back of the third. The dorsal shield of the first segment, is pale glassy green, clouded especially on the sides with fuscous.

This description was taken from living specimens taken from cabbages, November 21st. The tubercles mentioned in the foregoing description are to be understood as minute pimples or raised points.

I failed to find any pupæ in the garden, and hence cannot state positively in reference to the places selected in which to undergo their transformations. Those in the breeding cages, formed cocoons on the surface of the dirt, covering them externally with a layer of sand. They are usually exactly oval in form and cylindrical, the length varying but slightly from half to six-tenths of an inch. The cocoon proper or silken portion is very thin, formed apparently only to hold the particles of sand with which it is thickly surrounded. The pupa is of a glossy brownish color. The pupa state of the summer brood (or broods) lasts about seven or eight days; the record of those reared being as follows (twenty or more specimens); went into

the pupa state September 12th, 13th and 14th, moths appeared 16th to 22d and on to October 1st.

The moth expands from eight-tenths to nearly one inch; body very slender and usually a little less than half an inch long. Antennæ naked quite slender, and tapering towards the tips; legs rather stout. General color of the upper side a pale ocher-yellow shaded with brown in front and along the lateral margin, lighter portions slightly iridescent. Examined more closely, the front wings are found to be divided into two areas by the colors, the inner (anterior) half, except the costal margin, pale semi-transparent usually with a very distinct iridescent reflection, sometimes coppery. The outer half and anterior costal margin fuscous-brown; near the exterior angle an elongate yellow dot, bordered posteriorly and interiorly by a dark, often black shading. Secondaries or posterior wings pale yellow, transparent, usually with a distinct coppery luster, a dusky space at the exterior angle. The color of the fringe corresponds with the color of the wings.

Underside of a pale coppery yellow, the depth of color corresponding with the color of the upper side.

Abdomen compressed, dark brown with paler rings at the sutures; eyes very dark brown or black, antennæ vary in color, some are dark brown almost black, others rather pale.

The original description by Guenee is as follows: "Length 27mm. The anterior wings of a yellow ocher color very pale, shining, and iridescent, powdered with blackish in places; with the two median lines blackish, oblique, parallel and strongly and irregularly denticulated. A cellular blackish spot rather large, somewhat interrupted. An oblique apical point limited posteriorly and interiorly by a black shading. Posterior wings much paler, with a triangular dash at the apex, and a denticulate line of blackish. North America; one female."

As before stated, they eat elongate holes between the veins of the leaves; sometimes continuing to enlarge these until only the veins are left. They will often bore directly into a head for the depth of two or three leaves, whereas, so far as I have observed, the larva of *Pieris rapæ* will not bore into a firm head, they will manage by gnawing at the outer leaf to cause it to draw slightly away from the head and then eat holes in it; but the larva of the *P. rimosalis* will bore, at least for a short distance, directly into a firm head. They appear, as a general rule, to prefer working from the inner or upper side of the leaf, but there does not seem to be any great uniformity in this respect.

I have not as yet, noticed any parasite preying upon them, though it is probable another season will bring some little friend of this kind to our aid.

The same remedies tried upon the European cabbage-worm were tried on this species, in fact the two worms worked very harmoniously on the same cabbage, the butterfly larva, as is well known being of a proverbially quiet and peaceable disposition, avoiding as far as possible encroaching upon the premises of other insects. But this species appears if possible to be still more tenacious of life than the imported worm; it will eat away apparently unconcerned when literally coated over with lime; salt and brine seem to have no effect upon it; strong ashes and weak lye will kill some, especially the younger ones, but to no great extent unless of sufficient strength to injure the cabbage. Other applications were also tried with little or no better effect

but the time allowed for experimenting was not sufficient to exhaust the various means which may be resorted to.

I think it probable a flock of chickens would have aided me more than all the applications, but unfortunately these had been banished from the garden for injuring the tomatoes.

Their smaller size renders it more difficult to pick them off than the other worms.

It also feeds with equal avidity on turnip and horse radish leaves.

I think it quite probable that this is a southern species, which, like the Rice weevil (*Sitodrepa oryzae*) made its appearance in this latitude through the influence of the more than usually long continued warm weather of the past autumn. It is undoubtedly two if not three brooded in a year. If I am correct in this opinion, it is not likely that Illinois will ever be seriously troubled with it so long as our seasons remain as they have usually been.

The limited group to which this species belongs is widely distributed over the world, most of them in the larva state, feeding on cruciferous plants, one only, the cabbage-garden Pebble Moth (*Pionea forficalis*), appears to injure cabbage and other useful vegetables in Europe. The caterpillar of this species is found in May and June and the second generation in September and October. It has a light brown head and a yellowish green body, with black stripes running length-wise, and blackish dots, having fine white lines between and white incisions and spiracles. It is quite common in England and on the continent and often does serious injury to the cabbages and horse-radish. No effectual method of destroying them has been found except picking them off by hand and killing them, which is very difficult in large patches.

The discovery of the habits of our native species is quite interesting as it shows the great similarity in habits of species which are considered closely allied by their external characters; and is a strong confirmation of the correctness of the present system of classification.

THE CABBAGE PLUSIA.—*Plusia brassicae*. Riley.

This species, which was first described and named as distinct by Prof. Riley in his second report, was previously either overlooked or confounded with the European *Pl. ni*. Engr., the close resemblance of the two having led Guenee to consider them as identical. Until recently, Mr. Grote, who has made the group to which this belongs a special study, and who is perhaps our best authority in reference to the *Noctuidae*, was disposed to consider the two as one species, but he now decides the *brassicae* to be a good species, an opinion concurred in by Drs. Zeller and Speyer, and I believe most Lepidopterists.

A short account was given in my second report, but I have concluded, as it is a true cabbage insect, to give its history and charac-

teristics more completely, and to illustrate these by reference to congeneric species. I do this because it is difficult to determine a species, particularly of the moths, from a single description, without a possibility of reference to the descriptions of other species, especially when specimens of the same genus are found in the same sections.

Although the Cabbage Plusia appears every year in greater or less numbers, it does not appear to be generally so injurious as to require any special effort for its destruction; its development in injurious numbers being only occasional, and then only in places where large quantities of cabbages are raised, as in the vicinity of larger cities.

The moth may be readily distinguished by the following characteristics, which are generally quite uniform. Expanse of the wings 1.25 to 1.50 inches. Front wings narrow and wedge-shaped, as is usual in this group; of a dark, grayish-brown color, a pale spot near the base between the prominent veins; near the middle, two small silvery-white spots, the inner one, which is the larger, of an irregular U-shape, with the opening forward, the interior space usually marked with a slender fulvous line; the outer one close to the base of the former, and sometimes connected with it, is round or oval in form. These spots are usually very distinct, and bright silvery-color, but occasionally are dull, and sometimes scarcely distinguishable, but seldom, if ever, entirely wanting in both wings. Usually a scarcely distinguishable band, slightly paler than the ground color, crosses the wing towards its outer margin; the fringe of the outer margin is of the same color as the wings, and is dentated. Hind wings smoky, with a coppery lustre, darkest toward the outer margin; fringe pale or whitish, with darker inner line. Underside smoky, that of the front wings darkest, with a pearly, varying on the hind wings to a slightly coppery lustre.

The thorax dark grayish-brown; abdomen more or less fulvous; that of the male with a very distinct tuft of bright fulvous or yellowish hair on each side of the fifth segment, folding over the back of the following segments.

The larva or caterpillar, which when fully grown is usually a little over an inch long, has but twelve feet, the three pairs of anterior or true feet on the first three segments behind the head, two pairs of abdominal feet situated far back, and the two on the last segment.

Its general color is pale yellowish green, with about six or eight longitudinal paler lines on the dorsal portion of the body and extending back to the tenth segment; the posterior extremity of the body is the thickest, from whence it tapers gradually to the head; the anal segment sloping abruptly downward. The pale lines are not always distinct.

When fully grown they form a very loose white silken cocoon, so delicate that the chrysalis is distinctly visible through it. The chrysalis is rather slender and varies in length from .60 to .75 of an inch; the dorsal portion olive or brown, the ventral pale yellowish-white; the proboscis case is very distinct, extending back of the wing cases to the seventh segment.

I have failed to notice the eggs, but they are doubtless similar to those of the closely allied European species, *Plusia gamma*, Linn., which are turnip-shaped, or oblate spheroids, with delicate ribs and sculpturing, and according to Curtis, are generally attached to the underside of a leaf, in considerable clusters, though Sepp represents them as laid singly. The larvæ of this species, as is the case with

all the *Plusias*, on account of the long abdominal space without legs, have to bend upward, or loop the central portion of the body in moving, and hence may be classed among the measuring or spanworms, so far as the method of progression is concerned. They eat large, irregular holes in the leaves of the cabbage, but do not appear to be confined to this plant. They spin their cocoons and pass the larvæ state between the leaves, or in some sheltered place. The European species, *P. gamma*, to which it appears to be quite closely allied, occasionally appears in great numbers on the continent, doing incredible mischief to the market gardens, eating up the peas and beans, so that only the stalks and fragments of the leaves are left; whole fields of culinary plants have been consumed by them, and even crops of hemp. It is therefore possible that under favorable conditions our species may develop in such numbers as to be seriously injurious.

Curtis, from whose work on *Farm Insects* these facts are obtained, remarks that: "These extraordinary swarms of insects, and their irregular returns, may be sometimes owing the mildness of the foregoing winter; in the instance just related there had been no severe frosts either in the winter or spring, so that the previous autumnal broods of caterpillars lived through the cold season, and it necessarily followed that an immense number of the moths were produced, and the spring and summer which succeeded proving favorable to their increase, they became more abundant than they had ever been known before."

We may remark here in passing, that this species,—*P. gamma*,—is a widely dispersed insect, being found not only all over Europe, but also over a large part of Asia and even in North America.

The *Plusia* moths, unlike most of the *Noctuidæ*, fly about in the day time, in sunshine as well as in dull and even damp days. But they are exceedingly shy and difficult to catch.

The number of broods of this species in a season, is yet a matter of some uncertainty; that there are two, is evident from the fact, that the larvæ reared by myself, and also those by Prof. French, were taken in August and appeared in the perfect state about the first of September. This brood usually remains in the pupa state about two weeks or a little less. The proper care in making our collections would probably have decided this point, but attention not having been called to it before, it was overlooked. But it is quite certain we have two if not three broods; that it is three brooded in the southern states, is rendered certain by the fact that Mr. Grote records its capture in Alabama as early as February 20th.

According to Stephens, there are three broods of *P. gamma* in England, the first appearing in April, the second in June, and the third in September. Curtis states, that in France it is most abundant in July and October. Duponchel, in his catalogue, says it is found "all the year." From the same catalogue we learn that the moths of the European species, here named, make their appearance, or rather are found, as follows:

Orichalcea. F. Switzerland. In July.

Bractea. F. Alps. In August.

Aurifera. H. Spain and France. In July.

Testacea. L. Europe. In June and August.

Chalcites, Esp. Italy and France. June and August.

Accentiifera. Lef. Sicily, Corsica and Spain. June and September.
Iota. L. Northern France, etc. June and September.
Ni. H. Central France and Italy. June and August.
Gamma. L. Europe. All the year.

The following dates, at which collections of the moths of our native species were made by Mr. C. E. Worthington, about Chicago, copied from the *Canadian Entomologist* of April, 1879, will be valuable in this connection:

<i>Plusia aerea</i> .	Hub.	August and October.
" <i>contexta</i> .	Grote.	August and October.
" <i>biloba</i> .	Steph.	May, August and October.
" <i>verruca</i> .	Fab.	September.
" <i>dyaus</i> .	Grote.	September and October.
" <i>precatationis</i> .	Guen.	June and October.
" <i>ou</i> .	Guen.	Sept and October.
" <i>brassicæ</i> .	Riley.	September and October.
" <i>oxygramma</i> .	Gey.	September and October.
" <i>simplex</i> .	Guen.	June and October.

From this it would appear that at least one species—*Pl. biloba*—is three-brooded as far north as Chicago. Most of the species in this list have been observed by us, in the southern part of the state, but almost uniformly a month earlier than here given.

The mode in which *Pl. brassicæ* passes the winter does not appear to have been noticed; but judging from the delicate character of the cocoon, the position in which it is usually found, the dates at which the moth is found and its apparently hardy character, it is quite probable that it hibernates in the perfect state.

Remedies.—As the species has appeared but a few times in injurious numbers, at least in the west, and then only in limited localities, no particular efforts to destroy them have been made, and no special experiments with topical or other remedies have been instituted. It is probable the larvæ are more easily killed than those of the cabbage butterfly, or Cabbage Pionea; but until special experiments are tried it is impossible to say what will be most effectual.

The various applications mentioned in the foregoing article on the European Cabbage-Butterfly will suggest what may be tried on the caterpillars of the species now under consideration, should it become seriously injurious.

Curtis suggests the employment of ducks as an aid; the same suggestion was made to me a short time ago, by a practical farmer, when speaking of the cabbage worms. Young ducks and young chickens would be most efficient aids, if taken away when they attain a size at which they commence to injure the young cabbages and other plants, but this is not until they are about half-grown, or nearly large enough to fry. A brood will soon learn, as I know by actual experiment, to start out together in the morning and feed across the garden in one direction, picking off the worms and other insects; then wheel and march across in the opposite direction, and so on until supplied. This will be repeated two or more times during the day.

Remarks.—As some knowledge of the characteristics, preparatory states and habits of congeneric species, especially as the genera are now restricted, will aid in determining and also in forming a correct

opinion in reference to our injurious species, I present here notes on other North American and some of the more noted foreign species.

The following list, taken chiefly from Grote's check-list, contains about all the North American species that have been determined. I have placed opposite the names, so far as I have been enabled to do so from the data at hand, the localities where they have been observed:

1.	purpurigera,	Grote.	
2.	æreoides,	Grote.	New York.
3.	ærea,	Guen.	New York, Illinois.
4.	balluca,	Guen.	New York, Canada.
5.	metallica,	Grote.	
	<i>bractæ,</i>	Grote.	
6.	contexta,	Grote.	New York, Illinois.
7.	putnami,	Grote.	New York.
8.	striatella,	Grote.	Atlantic States, Canada.
9.	thyatiroides,	Guen.	New York.
10.	formosa,	Morr.	New York.
11.	mappa,	G. and R.	
12.	bimaculata,	Steph.	New York.
	<i>u-brevis,</i>	Guen.	
13.	biloba,	Steph.	Illinois.
14.	verruca,	Fabr.	Illinois.
15.	dyaus,	Grote.	Illinois, Texas, Jamaica.
16.	precationis,	Guen.	New York, Illinois.
17.	latioclavia,	Morr.	
18.	labrosa,	Grote.	
19.	monodon,	Grote.	Cape Breton.
20.	sackenii,	Grote.	Colorado.
21.	gamma,	Linn.	Europe, California, British America.
22.	pseudogamma,	Grote.	Cape Breton.
23.	ou,	Guen.	Illinois.
24.	fratella,	Grote.	Texas.
25.	u-aureum,	Boisd.	New York.
26.	8-scripta,	Sanb.	Anticosta Island Racine, Massachusetts.
27.	viridisignata,	Grote.	Canada.
28.	brassicæ,	Riley.	Illinois, Missouri.
	<i>ni,</i>	Grote.	
29.	oxygramma,	Guen.	Illinois.
30.	mortuorum,	Guen.	New York.
31.	epigæa,	Grote.	New York.
32.	ampla,	Walk.	New York.
33.	diasema,	Dalm.	
34.	pasiphæia,	Grote.	California.
35.	parilis,	Hubn.	Russia.
36.	simplex,	Guen.	Illinois, New York, Colorado.
37.	alticola,	Walk.	Colorado.
	<i>ignea,</i>	Grote.	
38.	hochenwarthi,	(Hoch.)	Labrador, British America.
	<i>divergens,</i>	Fabr.	
39.	divergens,	Hubn.	
40.	pedalis,	Grote.	Kansas.
41.	illustrata,	Guen.	Hayti.

It is not claimed that this list of localities is by any means complete, as it is made up from my own collection and some two or three brief lists which are at hand. It is more than probable that most of the species found in New York will also be found in Illinois. For the benefit of the entomological students of Illinois who may desire to determine species, and in order to enable those injured by *Plusias* to know the guilty species, I give here descriptions of species known to be found in Illinois, and of a few others which will probably be discovered here.

PL. AEREA, Guen.

Front wings triangular, very sharp at the apex, which is falcate; outer border gibbous a little behind the middle; the inner border straight in the middle portion, but suddenly curved at the anal angle, forming a kind of tooth; of a deep violet brown, with an irregular, darker line running from the anal angle to the apex; about three partial and somewhat confused lines of the same color and parallel to the first, most distinct on the inner half; the anal angles often with a saffron tint or luster. Posterior wings paler, of an almost uniform ochre-gray, with a faint coppery or golden luster. Underside of all the wings with a strong brassy luster, the disk of the front pair dark, the borders light; fringe pale. The head and prothorax heavily covered with saffron yellow hairs; the thoracic tuft with the anterior portion more or less yellowish, rest dark or pale brown. Abdomen pale, iridescent. Expansion of the wings 1.35 to 1.45 inches.

This species is without the silvery marks on the front wings so common in this genus. Is found throughout the state.

PL. BALLUCA, Guen.

Front wings very acute at the apex and strongly falcate; of a silken, yellowish gray; the median and subterminal spaces, with the exception of the cellule, of a brilliant greenish yellow or pale olive color; the space next the base of a more silvery shade. The two oblique transverse lines which separate the spaces, very slender, brown; the inner separates distinctly the two spaces, it curves in passing through the cellule, and is straight, but oblique, from the nerve to the posterior or inner margin. The middle space is without the usual metallic spots. The posterior wings of a clear, uniform, silvery gray, without markings; their underside of a clear, pale, uniform shining yellow. Underside of the anterior wings with a slight purplish shade. Head and prothorax honey yellow; rest of the thorax gray; tufts of the abdomen usually sprinkled with yellow. Expanse 1.80 to 1.90 inches.

Hubner figures the posterior wings with a black lunule, but the specimen before me is without this mark, and Guenee says it was also wanting in his specimen.

PL. AEREOIDES, Grote.

Front wings with the apex somewhat acute and slightly falcate; general color yellowish brown, with a fuscous shade across the inner

space; a rather darker, irregular band across the outer space, and faint indications of three narrower bands across the middle space, the one next the base forming the inner transverse line or corresponding very nearly with it; no metallic spots; the outer transverse line narrow, but very distinct, brown, bending at the middle, but nearly straight from there to either margin and nearly parallel with the margin of the wing; a single, very slender brown line along the outer margin at the base of the fringe; veins rather more than usually distinct and dark. Posterior wings an almost uniform fuscous, with a slight ochreous shade; underside straw color, with two incomplete, rather narrow bands and a discal splotch of pale brown. Underside of anterior wings ochreous, with shadings of purplish brown. Head and prothorax pale honey yellow. Expanse 1.35 to 1.40 inches.

PL. CONTEXTA, Grote.

Fore wings a little narrower than in *festuæ* or *putnami*, external margin a little straighter, of the same brilliant colors, but the ground tint is more as in *festuæ*, more of vivid brown, but not rosy as in *putnami*. The course of the median lines is the same as in its allies, but they are hardly as distinct. The light golden, metallic spots are fused, so that they come to have somewhat the appearance of the spots in *biloba*; the base of the compound spot is straight; the upper margin of the spot does not extend above the median vein. The golden portion of the apical shade is more extended inwardly and superiorly than in either of its allies, reaching inwardly to the reniform dot. Fringes of both wings pinkish. Hind wings pale fuscous; beneath, both wings pale rosy or ochrey-fuscous, with faint transverse lines. Varies in the extent of the orange-red powdering of the wings, so that some specimens seem higher colored than others. Expanse, 1.35 inches.

This species, if not in fact a variety of the European species, *festuæ*, is the closely allied representative of it.

PL. BILOBA, Steph.

Anterior wings of a rich purplish-brown, with darker and lighter shades, palest toward the outer margin; the subterminal line, or line crossing obliquely near the outer margin, slender but distinct and marking the boundary between the shades; in the outer field, or space beyond this and near the apex of the wing; usually, behind this is a small brown dash running directly outward to the middle of the outer margin, the middle field, containing the silvery spots, purplish-brown except the spots, often some bronze or golden scales along the posterior part of the subterminal line, and silvery scales along the curved inner transverse line. The silvery spot is much larger than usual and consists of two pear-shaped lobes, the smaller ends pointing inwards; in front of the outer lobe, midway between it and the costa, is a short bent silvery line. Apical angle rather sharply defined but not falcate. Posterior wings smoky yellow, darkest toward the outer margin, with a bronze or coppery luster. Underside of an almost uniform, strongly marked bronze color. Head and thoracic tufts ferruginous brown; abdomen pale. Expansion, 1.4 to 1.6 inches.

PL. DYAAUS, Grote.

This species appears to be closely related on one side to *verruca* and on the other to *precationis*. The ground color is a pale lilac-brown with a tinge of gray. The front wings are marked, especially on the middle portion, with a strong bronze or golden luster; between the large veins near the base a pale, orbicular, silvery spot; the usual metallic or silvery spots on the disk small, but distinctly separated from each other, the outer or posterior one orbicular; the inner or anterior in the form of a U, with the inner limb the longer, the interior space fulvous, this fulvous portion extending obliquely forward to the costal margin; the outer transverse line separating the middle and outer third of the wing, sinuous, bordered outwardly, on the outer and inner portion by lilac-gray; the inner margin of the middle portion bordered by a strongly golden-tinted space; the outer margin, along the base of the fringe, marked by a straight, slender, pale lilac line; the fringe lilac-gray, slightly mingled with brown. Posterior wings pale lilac, with fuscous shading, darkest toward the outer angle, with pale fringes. Underside ochreous, the hind wings with two dull fuscous lines. Collar and face of dorsal tuft olivaceous.

It evidently approaches very near to *precationis*, but the metallic spots are silvery instead of golden, the hook or U-mark more rounded at the angle; it is a little smaller species, paler and of a less distinct purplish tint. Expanse 1.35 inches.

PL. PRECATIONIS, Guen.

The front wings and thorax of a deep purplish-brown color. The inner transverse line, which marks the division between the basal and middle area, is formed by a slender thread of golden scales, obliterated toward the costal margin, the outer transverse line indicated by a narrow purplish shading, with a strong forward bend opposite the outer metallic spot; the fringe, which is pale lilac, is preceded by a very slender, pale inner and then by an outer, black marginal line, and is interspersed with black; the darkest portions of the wings are the space around the metallic spots and the interior portion of the outer area (considering the wings as spread). The metallic spots have more of a golden hue than those of the species heretofore described, they are also distinctly separated and prominent; the outer or posterior, ovoid; the inner or anterior, when seen from the base of the wing, resembles an interrogation point (?) but seen from behind when the wings are spread, resembles an Italic *v*, the open part turning forward and inward. The posterior wings dark uniform fuscous, with a coppery luster. Under side dull ochreous, somewhat dusky; the posterior pair crossed by three fuscous lines, two of which are partially visible on the anterior wings. The anterior part of the collar a bright red. Expanse 1.50 inches.

The ground color of this species resembles very closely that of *bi-loba*, but the wide difference in the metallic spots and larger size of the latter readily distinguish it. The metallic spots of *precationis*, *dyaus*, *ou* and *brassicæ* somewhat closely resemble each other in size and shape, but other differences sufficiently distinguish them from each other.

PL. VERRUCA. Fab.

Anterior wings of a violet-gray, with a deep golden luster, with two bands of gold sprinkled with brown; the first broad, starting from the inner border and ending at the cellule, interior portion straight, the exterior portion with a sharp sinus near the fourth inferior nervule; the second occupying all the terminal space, cut interiorly into large sharp teeth. Upon the first, immediately below the cellule, are one or two little guttiform, silvery spots with a golden centre. The space next the base and the place of the reniform spot, thickly sprinkled with gold. The posterior wings a dull gray, paler at the base; beneath, pale with a large subterminal band and a partial fuscous costal line. Head and base of the collar reddish saffron color.

Expanse 1.3 inches.

(Guenee).

PL. OU. Guen.

General color a silken grayish-brown. The front with the apical angle rather sharply defined; shades of dark brown alternating with ashen-gray; the spot between the large veins near the base oblong, dull ash color with a slight silvery luster; the inner transverse line obliterated; the outer crenated, corresponding with it is very distinct gray band which extends in a straight line from the costal margin, near the apex, to a point a little below and behind the outer silver dot; between this and the outer margin is an irregular, crenated, dark line more or less distinct; a slender gray line runs along the outer margin, interrupted, on the side next the fringe, by dark lunules; fringe indistinctly scalloped, gray with alternating dark rays. Metallic spots silvery, rather small, the posterior, orbicular or guttiform very close to the other; the anterior, when seen from behind (the wings being spread), is in the form of an irregular Italic *u*, the opening forward and the inner limb curving inward towards the base of the wing; seen from the base of the wing it strongly resembles an exclamation point (!); from this, a pale indistinct dash of gray extends obliquely forward and inward (wings being expanded) to the subcostal vein. Posterior wings of a coppery brown, quite dusky towards the outer margin; fringe pale, interrupted with brown. Under surface similar to the upper surface of the hind wings; the latter crossed by two very indistinct lines. Head and thorax rather dark ashen gray.

Expanse 1.50 to 1.60 inches.

PL. SIMPLEX, Guen.

Front wings with apical angle well defined; anal angle somewhat dentate; general color grayish brown; middle space behind the metallic spot dark brown; the inner or basal space and anterior portion of the middle space dark ash color, with a slight purplish tint, sprinkled with black points; the interior transverse line, which separates the basal and middle areas, a very oblique, straight, narrow silvery line, which runs from the posterior margin of the wings to the inner point of the metallic spot, where it stops; the outer transverse line

slightly waving or somewhat crenate and not very distinct, the outer space of two shades, the inner portion darkest and brownish ash color, but somewhat paler than the middle area, its outer margin tolerably well defined, marginal portion paler ash color; fringe concolorous, with brown dots at the tips of the veins; metallic spot single, silvery, narrow and shaped like an italic Y, that is, an oval dot with the inner end prolonged in two arms to the nerve. Posterior wings dark fuscus, with a broad, pale ochreous, curved band across the middle and a pale orbicular spot on inner portion near the band; fringe pale, with brown points. Underside bronze, somewhat fuscous, with a distinct brownish band across both wings. Head very small; it and the thorax gray.

Expanse, 1.40-1.50 inches.

I have two specimens that appear to belong to *precatonis*, with the silvery spot precisely as in *simplex*.

PL. OXYGRAMMA, Guen.

Front wings subdentate, large at the extremity, with a very prominent anal tooth preceded by a distinct sinus; of an ashen gray, satin color, shaded with roseate, and clouded with darker gray, with the lines scarcely visible; the two median waved, roseate, with dark bordering; the subterminal blackish, slender and dentate, with the teeth sharp and following one another in a line parallel to the border, upon which, in a certain light, can be seen the little black chevrons, the same as those on the subterminal. The "*sign*" [usually metallic] is here non-metallic, long, clear, and slenderly bordered by yellow. The reniform spot, straight, small and concolorous but visible. Posterior wings of a blackish-gray, paler at the base. Tufts of the abdomen large, especially that on the first segment; and extremity of the male garnished with blackish, silky hairs; there are also two lateral tufts of the same color which arise from the fifth segment and connect with the anal tuft.

The antennae are larger than those of any other *Plusia*. (Guenée.)

I have before me a female of what appears to be this species. The general color of the front wings is a dark ashen gray, with brownish markings in the middle space; the apical angle is slightly rounded; the inner transverse line not distinguishable; nor is the outer one well marked; the *sign*, or metallic mark, is narrow, sharp pointed toward the outer margin, with the sides of the inner portion parallel, the outer lines of it are metallic, the inside or space within yellow, but not metallic; the anal tooth is well defined. It expands 1.40 inches.

PL. PUTNAMI, Grote.

This pretty species is easily distinguished by the large golden spaces sprinkled over with orange, at the base and tip of the front wings; one of these is an elongate narrow spot on the costal margin at the immediate base; another large trapezoidal spot extending backward from the metallic spot to the inner margin; another at the apex, only partially covered with orange. The metallic spot is large, silvery, with

a slight golden luster, and composed of two lobes; the inner much the larger of the two and triangular, the forward angle rounded and extending into the cellule; the outer ovoid, and sometimes scarcely joined to the other; rest of the wing an orange brown. Posterior wings pale fuscous; underside yellowish, with an indistinct, narrow, sinuous brownish band across the disk. Head bright orange yellow; anterior part of the tufts of the thorax orange brown. Expanse 1.25 to 1.30 inches.

There are doubtless other species which have been or will be found in Illinois, but these are the only ones known to me at present as inhabitants of our State. The following brief notes in reference to other species which may possibly be met with when our insect fauna has been more thoroughly studied, are given as slight aids in detecting others than those described.

Pl. metallica, Grote. Appears to be the American representative and possibly but a variety of *Pl. bractea*, w. v. The latter has the anterior wings marbled with purplish-brown and gray; the metallic spot large, angulated and golden. Expansion 1.7 inches.

Pl. bimaculata, Steph. (*u—brevis*. Guen).—Head, thorax and abdomen purplish-brown; front wings varied with fuscous brown and ferruginous, apical angle rounded. Two silver spots almost equal and strongly isolated; the first, a *u* surmounted by a little crescent, thus—*u*; the second more flattened and broadly oval. Expansion 1.65 inches.

This genus, as has before been intimated, is very widely distributed over the world, almost every country having its representative. *Dyaus*, found in Illinois, is found also in West Indies; *gamma*, found in California and probably in British America, is common in all Europe and in Algiers; *verruca* ranges from Illinois to Brazil. There are also other species common to Europe and America, and several peculiar to the former. In Cayenne the genus is represented by *Pl. feisthamelii*; in Montevideo by *Pl. nu*; in Cape of Good Hope and Southern Africa by *Pl. angulum* and *limbirena*; in Madagascar by *Pl. anargyra* and other species; in New Holland by *P. argentiifera*; in East Indies by *Pl. signata*, *verticulata*, and other species; in Northern Africa by *Pl. aurifera*.

The Ural region and Eastern Europe, especially Hungary and Austria, appear to be represented more profusely than any other section of the eastern continent.

What has already been stated in reference to the habits and characteristics of the larvæ of *Pl. brassicae* and *gamma* is, as a rule, true of the larvæ of the other species of the genus. They are attenuated in front, have but two ventral feet and hence loop in walking; and live exposed on the plants on which they feed. Many of them are general feeders, while others are confined to a single species or genus. The cocoon is usually very loose and composed of finest silken threads.

The larvæ of *Pl. modesta*, a European species, feeds on the leaves of *Pulmonaria angustifolia*, and appears in April and May; that of *Pl. gamma* appears in April, June and August, is a very general feeder on low plants; *Pl. iota* feeds on nettle, archangel, burdock, etc. *Pl. interrogationis* on *Urtica urens*; *Pl. chrysites* on nettles, burdock, thistles, etc. *Pl. orichalcea* on hemp agrimony (*Eupatorium cinnabrium*); *Pl. festucae* on bulrush (*Pypha latifolia*); and *Pl. balluca* on the hop. *Pl. simplex* feeds on nettle, burdock, etc.

So far as known the larvæ are always of a general greenish color; variously marked.

THE PAINTED MAMESTRA.—*Ceramica picta*. Harr.

The larva of this species, which is known as "*The Zelra*," is one of our most beautiful caterpillars. When fully grown it is nearly two inches long, almost uniform in size throughout, with the segments more than usually elongated, the head small and short; sixteen footed. It is marked throughout its entire length with very distinct stripes, alternately black and yellow arranged as follows; a rather broad velvety-black median stripe along the back, narrowly margined on each side with white; next to this, on each side, there is a bright yellow stripe about equal in width to the former, in the middle of this, on each segment, there is a small black dot; next below this comes a rather broad blackish line, crossed transversely by numerous minute white and somewhat netted lines; next below this is another bright yellow stripe; below this, and just above the legs, is a narrow white stripe profusely sprinkled with black dots. The head, ventral surface and legs are pale reddish-brown or tawny. The surface of the body is almost entirely free from hairs. Dr. Harris describes the broad lateral stripe as "white traversed by rune-like black lines." It is difficult to tell which predominates in this stripe, the white or the black; the stripe is composed of numerous minute alternating white and black lines forming a kind of net-work.

Dr. Packard gives the following characteristics of the younger stages of the caterpillar:

"In the young, before the first molt, the head is as wide as the body, pale greenish, while the body is pale greenish, with a double, dark, livid, dorsal stripe divided by a pale median line, and three lateral dark stripes, the upper-most of which is the narrower; five pairs of abdominal feet, the first pair one-half as large as the fourth pair. The body is tuberculated, being much smoother in the fully grown larva. Length a little over a line. After the first molt, when the worm is a little over three lines in length, the colors are much as in the fully-fed larva, being deep yellow, with a broad, black, dorsal band, sometimes entire and sometimes divided by a median pale line. A lateral area is marbled with transverse, short black and white lines; and with a row of conspicuous black spots. A row of dark spots down on the sides. Head reddish testaceous; abdominal feet reddish. After the third molt, when the caterpillar is one inch long (observed September 16), the markings are nearly the same as the mature caterpillar."

The moth, which expands an inch and a half, has the front wings of a bright purplish-brown color, with a slightly paler brown shade in the middle; the usual spots are rather dim, with a third oval spot behind the round one, more or less distinctly marked; they are all edged

and traversed by faint whitish lines forming a kind of delicate network; toward the outer margin there is a transverse, zigzag, whitish line forming a rude and wide w more or less distinctly visible; a few pale atoms are sprinkled on other portions of the wing. The posterior wings white and delicate, faintly edged with brown. The head and thorax brown; the abdomen grayish-brown.

There are two broods in each year; the first brood of the caterpillars appearing in June, the second in August and September.

It passes the winter in the chrysalis state; this at least appears to be the usual method.

Although apparently preferring cruciferous plants, the caterpillars feed with avidity on the leaves of the pea; and Prof. Riley has observed that the fall brood collects on the heads and flower-buds of asters and snow-berry, on the honey-suckle, mignonette and asparagus; and that they are also occasionally found on clover and lambs-quarter. When young they are gregarious.

So far the injury to cabbages caused by this insect has not been sufficient to call any special attention to it.

This species, which was formerly known by the scientific name *Mamestra picta* given to it by Dr. Harris, is supposed to be the same as Guenee's *Ceramica exusta*. The latter genus, in which it is now placed, contains but few species, the one here described being the only one, so far as known, that is injurious to useful plants.

THE CABBAGE TINEA.—*Plutella cruciferarum*. Zell.

As I have had no opportunity of studying this species personally, I will quote somewhat fully Dr. Fitch's excellent account of it as given in his Second Report; first remarking that he describes it under the name *Cerostoma brassicella*. It was also subsequently described by Dr. Clemens, under the name *Plutella limbipennella*.

In the neighborhood of Ottawa, Illinois, in October last [1854], I observed the cabbage leaves in the gardens perforated with numerous holes of variable size and irregular form, by a small green worm. Some gardens were so much infested that all the outer leaves of the cabbage were literally riddled with holes, more than half their substance being eaten away. At almost every step, numbers of the little moths which hatch from these worms would arise upon the wing and flit away a few yards to some covert. Fortunately it is only the free outer leaves of the cabbage which are preyed upon by this worm, whilst the compacted inner leaves, forming the head, on which the value of this vegetable depends, are left uninjured. But there is no doubt the eating away of the outer leaves, to such an extent as is frequently done by this worm, weakens and stints the growth of the head, which, as is well known, continues to advance in size until the end of the season.

It is a little remarkable that this species occurs in all its states so late in the autumn as the middle of October, as the several British

moths which are co-generic with it all make their appearance in July and August. It is hence altogether probable that there are two generations of the moth in each year; and if so, the first generation will make its appearance, it is quite likely, in the month of June, or at all events before the heads have begun to form, and when all the leaves are young, open, and adapted for its resort. It will consequently be liable, then, to do great injury to this vegetable.

This worm in its appearance, motions and habits, has a close resemblance to the Palmer worms which have recently stripped the foliage from our orchards and forests so extensively, to which, as we shall presently see, it is related. When it is disturbed it runs briskly backwards, with a wriggling motion or by a fine cob-web like thread lets itself down from the leaf. Its castings are little black grains, which appear like gunpowder sprinkled thickly over the leaves and the ground beneath them. The pupa or chrysalis is enveloped in a pretty gauze-like cocoon, which may be found attached to the eaten leaves, two or more of them frequently in a cluster together. It is spun of clean white threads, crossing each other and forming an open net-work, through the meshes of which the enclosed chrysalis may be distinctly seen. The threads composing the net-work are coarsish and not very stout. They may be readily broken with the point of a needle, and the enclosed pupa be thus removed from its case for examination, though the cocoon is so slightly attached to the leaf that it is frequently torn loose in thus breaking it open.

Interspersed with these gauze-like cocoons upon the leaves, others may be met with quite different in their appearance, being opaque and of a thick paper-like texture and a brown color. They are of an elliptic form, rounded at both ends, and only about the tenth of an inch long and a third as broad. These have been constructed by the larvæ of parasitic Ichneumon flies, which have destroyed the worms of the cabbage-moth. And from the information I possess it appears that this parasite deposits but a single egg in each worm, from which a maggot hatches, which feeds internally upon the worm, yet without attacking any vital part whereby the worm would be prematurely destroyed. Thus the parasite, as in other cases of this kind, attains its growth at the same time that the worm reaches maturity, when the maggot finishes its work by destroying the little that remains of its foster parent, and immediately incloses itself in this paper-like cocoon. Of three mature worms which I enclosed in a small box over night, only two were found next morning. All vestiges of the third had disappeared, and in place of it was one of these paper-like cocoons.

But as the worm of the cabbage-moth is such a choleric mercurial little fellow that, when he is molested, be it ever so slightly, he darts backwards and wriggles about so suddenly and spitefully, it will be an interesting topic for some future observer to notice by what artifice his mortal foe induces him to remain quiet or is able to cling to him long enough to puncture and drop an egg within his skin.

The knowledge and skill which these Ichneumon and other parasitic Hymenopters often show in their proceedings is truly wonderful. Every person will recollect the larva of the Isabella tiger-moth (*Arctia Isabella*)—the large caterpillar with stiff even shorn hairs of a tan-color and black at each end of his body, which crawls about our yards and even enters our dwellings—and will probably have observed the fact that if when crawling he is rudely touched, he suddenly stops

and doubles himself together for a moment, and then straightens himself again and resumes his journey. The long stiff hairs with which he is protected, much like a porcupine, we should think would render it impossible for an insect enemy to place an egg anywhere upon his skin. Mr. P. Reid tells me he once saw one of these caterpillars crawling with a hurried, eager step across a dusty road, with an Ichneumon fly pursuing him, striving to cling upon his back, but falling off in consequence of the rapid motion of the caterpillar. The fly finding itself frustrated in its every effort, next, as if humming to itself the refrain "Twill never do to give up so," flew a few feet forward of the caterpillar, and turning darted back with all his energy, hitting the caterpillar square in his face. The caterpillar thus roughly assailed suddenly stopped and bent himself together in his accustomed manner, and in an instant the fly alighting upon his back, appeared to fix an egg at the margin of one of the breathing pores, which had become fairly exposed by the caterpillar doubling his body thus together. In a moment the caterpillar was recovered from his shock and was crawling rapidly forward again, when the fly struck him a second time in the same way and thus he was stopped and had an egg deposited upon his side three times, before he reached the tall grass beside the highway, in which he was secure from further molestation. And it is probable that by some artifice equally curious and remarkable, the parasite of the cabbage-moth is able to drop an egg into the skin of his irritable, brisk motioned victim.

This moth pertains to the genus *Cerostoma*, of Latreille and the British entomologists, a genus belonging to the family TINEIDÆ, and intimately related to that to which the Palmer worm pertains—both genera having the feelers with a tuft of scales projecting forward like a beak, from the middle of which beak the slender terminal joint stands upwards like a little horn. The larvæ of the two genera are also identical in their appearance and habits. The genus *Cerostoma* is described as differing from that of *Chaetochilus*, in having the wings narrower and rounded at their ends, differences which are so slight as to be scarcely discernible on a comparison of this species with the moth of the Palmer worm. The antennæ narrower, are directed forward instead of being turned backwards and lying upon the back; but this is a character which is liable to be deceptive, except when observed in the living specimen. The light color of the inner margin of the wings, however, and the lace-like cocoon of the pupa, leave no doubt that it is the genus *Cerostoma* to which our insect must be referred.

Stephens (Illustrations, Haustellata, vol. iv, p. 341) says the spiral tongue in this genus is "shortish," while Westwood (Humphreys' British Moths, vol. ii, p. 245) gives it as "long and slender." The latter is certainly its character in our insect, where it is about equal to the antennæ in length. Our species is closely allied to the *C. porrectella*, Linn., the worm of which Mr. Westwood found feeding upon the buds of the White Rocket, a plant of the same family with the cabbage, and which forms an open net-work cocoon the same as our species. The worm of the cabbage moth is nearly cylindrical in its form, rather thickest in the middle, and slightly tapering towards each end. It is over a quarter of an inch long, measuring when full grown 0.35, and is the thickness of a coarse knitting needle. It is varied in its color, but is most commonly pale green, of the same hue as the cabbage leaf. Some are of a deeper tinge and others paler, varying to greenish

yellow or pale yellow. Often the hind part of the body is paler than the fore part. Frequently the head, or the apical segment, or both, are pale yellow, the rest of the body being of the usual green hue. Individuals may sometimes be met with having the head dusky or black with dusky clouds. The neck is frequently tinged with red. Commonly a stripe along the middle of the back is more or less distinct, of a deeper green color or blackish in places; and on each side of the back a similar stripe may be discerned, whilst low down on each side a whitish stripe is sometimes apparent. With a magnifying glass the body is perceived to be clothed with several short black hairs, which proceed from minute black dots, each of which is surrounded by a faint pale ring. These dots are symmetrically arranged, and are situated the same as in numerous larvæ of moths, each of the segments of the body having four of them above, placed at the angles of an imaginary square, of which the anterior side is the shortest; while on each side are four other dots placed at the angles of an imaginary rhombus, the upper and lower angles of which are very acute. There are numerous dots on the neck, and the head is commonly freckled with a number of dark brown dots.

There are sixteen legs and the two first segments of the abdomen at first glance appear to be furnished with legs also, being bulged on their under sides, so as to touch the surface on which the worm stands.

The *chrysalis* or pupa is one-fourth of an inch long by 0.05 in width. It is commonly of a white color, with large, deep black eyes situated inside of the base of the antennal sheaths. Quite frequently the white color is varied with umber-brown stripes, whereof there is one on each side of the back, with a very slender brown line between, upon the middle of the back. The wing sheath is brown upon the upper margin, with a brown stripe in the middle and a more slender one inside of it, parallel to each other, and both running into the marginal stripe, this last being prolonged upon the abdominal segments to the tip. The sheath of the antennæ and of the legs are also brown. These brown stripes remain upon the pupa skin after the moth has been hatched from it, but the black color of the eyes then disappears.

The winged moth measures 0.30 in length to the tips of the closed wings, and these, when expanded, measure 0.58. It is of an ash-gray color. The fore wings are freckled with black dots on the disk and apex and have a common white stripe on their inner margin reaching to the hind angle, which stripe is wavy upon its inner edge and near the middle of the wing is bordered by a dark brown streak; the fringe of these wings is traversed by one or more blackish lines which are parallel with the margin. The hind wings and also the undersides of both pairs are leaden-brown, glossy, and without any spots or dots. The antennæ and the underside of the abdomen are white. This moth is somewhat variable in the depth of its color, being frequently dark gray, and the stripe on its wings is not always pure white and distinct.

Facts so far as observed indicate that when this and its kindred species are favored with unusually dry weather at the date of their appearance in the larva state, the species suddenly becomes excessively multiplied, overrunning particular sections of country like an invading army. When I observed this cabbage worm a drouth was prevailing

through northern Illinois, that was said to be without a parallel since its settlement. And hence we infer that thoroughly showering the vegetation, which is attacked, with water, will be found a most effectual remedy for the expulsion of the worms of this group. With the cabbage moth this measure can easily be resorted to, a common watering pot being the only apparatus which is required.

Insects and Other Parasites Affecting Domestic Animals.

It is so very common for persons who have devoted no special attention to the humbler forms of animal life to include all of the minute animal forms under the term *Insects*, that the Entomologist is frequently called upon to give the history, habits and remedies for small parasitic animals which do not belong to the Insect class.

Having frequently received letters of inquiry in reference to insects and parasites affecting domestic animals, I have concluded to devote a portion of the present report to this subject.

In order to make clear what I may write on this subject I will first call attention to some generalizations respecting the arrangement and classification of the lower groups of animals, including those which we shall have occasion to mention.

Mammals, or such animals as man, the horse, cattle, hogs, sheep, dogs, cats, etc., are subject to the attacks of a large number of minute animals belonging to the great sub-kingdom *Articulata*, or articulate animals. By some recent authorities this large group has been divided into two or three sub-kingdoms, but for present purposes the older arrangement will suffice, although confessedly somewhat defective.

The sub-kingdom *Articulata* is generally defined as that division of the animal kingdom embracing all animals which have the body made up of a series of rings or joints, with the skeleton or harder parts external; the nervous system chiefly on the ventral side. This definition, although applying generally, is subject to many exceptions; as many of the species included present no apparent rings or segments in the body; in some the nervous system appears to be almost or entirely wanting. We can perhaps designate the group more satisfactorily to the general reader by saying that it includes all such animals as insects, centipedes, spiders, ticks, mites, lobsters, crabs, fishes, shrimps, leeches, earth-worms, tape-worms and other intestinal worms.

As will be seen from this list, it embraces a vast number of different kinds or species of small animals; more, perhaps, than all the other divisions of the animal kingdom combined. Although some of the subdivisions present considerable difficulty in attempting to classify them by distinct characters, and place them in proper positions in relation to each other, yet naturalists, after much study, have succeeded in arranging them in a manner generally acceptable to scientists.

The arrangement which we here present is the one most generally adopted at the present day.

Subdivisions of Articulata.

Sect. I. **ARTHROPODA** or True Articulates.—Those articulates having the body distinctly divided into segments; furnished at some time of life with articulated locomotive organs; the nervous system consisting chiefly of a double chain of ganglia running along the ventral side.

1. Class *Insecta*.—Three pairs of legs in the perfect state; abdomen destitute of limbs; one pair of antennæ; head, thorax and abdomen distinct; usually with two pairs of wings; air breathers. Contains all the true insects.
2. Class *Myriapoda*.—Legs numerous, usually more than eight pairs; head distinct, remainder of the body composed of similar segments; one pair of antennæ; air breathers.
Contains the centipedes, millipeds, etc.
3. Class *Arachnida*.—Four pairs of legs; no true antennæ; head and thorax amalgamated into one piece; breathing various. Contains spiders, ticks, mites, scorpions, etc.
4. Class *Crustacea*.—Locomotive appendages more than eight; two pairs of antennæ; head and thorax amalgamated into one piece; water breathers.
•Contains the lobsters, crawfish, shrimps, crabs, sand-fleas, etc.

Sect. II. **Vermes** or Worms.—Division of the body into segments usually not so distinctly marked and sometimes wholly wanting; never furnished with articulated locomotive appendages; nervous system usually less perfect than in the preceding section.

5. Class *Annelida*.—Body showing segmentation but not so distinctly marked as in the preceding section; without any distinct head in the true sense; the nervous system as in the preceding section. The segments very numerous and similar, except those at the anterior and posterior extremities of the body.

Contains the leeches, earth-worms, sea-worms, etc.

6. Class *Scolecida* (Helmintha or Entozoa).—Body usually without apparent segmentation, though in some cases this is distinct; without locomotive appendages; the nervous system very imperfect or wanting; with the exception of two orders, are internal parasites.

Contains the tape-worms, cyst-worms, flukes, trichina, ribbon-worms, thorn-headed-worms, hair-worms, round-worms, wheel animalcules, etc.

We shall have occasion to refer to species of but three of the classes here mentioned, to-wit: Class *Insecta* or Insect class; Class *Arachnida* or Spider class; Class *Scolecida* or Intestinal Worm class. As I have in a previous report noticed the orders of insects, it is unnecessary for me to do so here.

The Class *Arachnida* is usually divided into three orders, as follows:

Order 1. *Araneina*, or True Spiders.

Order 2. *Pedipalpi*, containing the scorpions, false scorpions and daddy long-legs.

Order 3. *Acarina*. Containing the mites.

The third order—*Acarina*—is the only one of these we shall have occasion to refer to:

The Class *Scolecida* or *Entozoa* is a somewhat heterogeneous group, containing several orders differing very widely from each other in characteristics and habits. These are usually given as follows:

Order 1. *Trematoda*. Containing the flukes.

Order 2. *Cestodea*. Containing the tape-worms and bladder-worms.

Order 3. *Acanthocephala*. Containing the spine-headed worms.

Order 4. *Nematoidea*. Containing the thread-worms, hair-worms, etc.

Two or three other orders, which are not parasitic, are included.

This outline of the classification will suffice to give the reader an idea of the relative positions which the species we shall have occasion to refer to, occupy in this extensive sub-kingdom. These three classes contain all the minute animals which can in any sense be called parasitic. For example, in the Insect class we find such parasites as fleas, bed-bugs, lice, bot-flies, sheep-ticks, etc.; in addition to which there are many others, not true parasites, which direct their attacks more especially against man and domestic animals, as mosquitoes, the *Tabanidae*, or horse-flies; the *Simuliidae*, or black gnats, etc.

In the spider class the principal enemies of man and beast are found among the mites and ticks, but these are counted by the legion, for almost every animal has its peculiar species.

In the class embracing the intestinal worms we find whole groups of species which appear to have been formed for the express purpose of making the internal parts of mammals their special habitation, as they are unable to exist anywhere else. The stomach, the intestines, the muscles, and even the brain and eyes have their peculiar species.

It will be seen therefore that to investigate thoroughly the various parasites that infest our domestic animals, it is necessary to examine into each of the three classes of Articulates named, and to pass beyond the boundary to which the work of the entomologist is usually confined.

SHEEP PARASITES.

This valuable and all-important domestic animal appears to be unfortunate, in being attacked by more than the usual number of parasites attacking the various species of mammals. It numbers among its enemies species from all three of the classes named; and what is of still more importance, is the fact, that it suffers more severely from these attacks than any other domestic animal.

THE SHEEP BOT-FLY (*Oestrus ovis* L.)

As this is a true insect belonging to one of the most numerous orders of the class, I will, before describing it, give a brief outline of the larger divisions of the order. The arrangement I will adopt is that given by Westwood in his "*Introduction to the Modern Classification of Insects*," not the latest, it is true, but sufficiently accurate for the present purpose.

As stated in my first report, the insect class is usually divided into about seven orders, as follows:

- Order 1. *Coleoptera*, containing the various kinds of beetles.
- Order 2. *Orthoptera*, containing the cockroaches, walking-sticks, grasshoppers, crickets, etc.
- Order 3. *Neuroptera*, containing the dragon-flies, lace-winged flies, etc.
- Order 4. *Hymenoptera*, containing the wasps, bees, hornets, ichneumon-flies, etc.
- Order 5. *Lepidoptera*, containing the various butterflies and moths.
- Order 6. *Hemiptera*, containing the true bugs, such as the bed-bug, squash-bug, chinch-bug, cicadas, plant-lice, bark-lice, etc.
- Order 7. *Diptera*, containing the two-winged flies, such as mosquitoes, house-flies, horse-flies, bot or breeze-flies, sheep-ticks, etc.

As will be seen from this, the bot-fly of the sheep belongs to the last order *Diptera*, or two-winged flies, but some, as the sheep-tick and other species, as is the case in some instances in the other orders, are without wings during their entire lives.

This order, as before intimated, contains an immense number of species and has been divided into numerous families which cannot be noticed here. On this account entomologists have divided the order into sections according to the character they conceived to be of most importance, the division by Westwood is as follows:

- Seqt. I. Head always distinct from the thorax; claws of the tarsi not dentated or toothed; larva annulose, not undergoing its transformation to the perfect state within the body of the parent.
 - Divis. 1. Antennæ composed of more than six joints; palpi four or five-jointed; pupa incomplete.

Musquitoes or Gnats, Crane-flies, Wheat-midges, Hessian-fly, etc.
 - Divis. 2. Antennæ short, not having apparently more than three distinct joints; palpi one or two-jointed.
 - A. Antennæ apparently composed of only three joints, the last however being articulated; proboscis exerted, seldom enclosing more than two lancets; the pupa coarctate, the skin of the larva, however, nearly retaining its previous form.

Contains mostly bright-colored flies found on flowers.
 - B. Antennæ with only three joints, usually with a bristle near the end, (*Tabanus* or horse-flies form an exception); proboscis exerted, usually with four, sometimes six lancets; larva with a scaly head; pupa incomplete.

Contains the horse-flies (*Tabanidæ*), robber-flies (*Asilidæ*), etc.

- C. Antennæ with only two or three joints, terminated by a bristle; proboscis generally concealed in the oral cavity; with two lancets (four in *Syrphidæ*); pupa coarctate, the skin of the larva forming an oval case.

The Syrphus-flies or Sweat-bees (*Syrphidæ*); house-flies *Muscidæ*; the bot-flies (*Estridæ*), etc.

- Sect. II. Head immersed in the thorax; claws denticulated or furnished with minute teeth; larva nourished in the abdomen of the mother until it passes into the pupa state.

Bot-ticks (*Nycteribidæ*), bee-lice (*Braulina*); forest-flies or horse-ticks and sheep-ticks (*Hippoboscidæ*).

The fleas (*Pulicidæ*), which Westwood places in a separate order, are now usually included among the Diptera.

The family *Estridæ*, as stated above, includes the various species of bot-flies. One of the most noted of these is *Estrus ovis* L., or the Sheep bot-fly.

The family (*Estridæ*), which contains the bot and breeze flies, is very singular in some respects. Although in general appearance somewhat resembling a common house-fly, yet the difference is sufficient to be noticed at a glance by the unscientific observer. As a general rule, the body of the fly is stout and hairy, somewhat like that of humble bees. Their mouth is very imperfectly developed. In the sheep bot-fly this organ is so reduced that it is impossible for the insect in its perfect, or fly state, to take nourishment, showing thereby that it was intended by Nature that its period of imbibing food should be confined to its larval or maggot state. The larvæ of these insects are generally thick, fleshy, footless maggots or worms, which have the hinder margins of the segments or rings of the body furnished with minute spines, which point backward, enabling them to move readily in the confined situations in which they reside. The head is usually very small, and the mouth in some consists simply of fleshy tubercles, as those which reside in the skin of animals, while in those species which reside in the stomach and nostrils, it is furnished with two little hooks, by means of which they are enabled to hold on to their positions. Their great peculiarity consists in the strange situations they select to pass their larval state, which is the most important part of their existence, their perfect state being devoted wholly to propagation. The *Gastrophilus equi*, or horse bot-fly, selects the stomach of the horse as the abode of its larva,—Nature having furnished it with that instinct which directs it where to deposit its eggs, that they may be carried to the spot where the larva will be developed and find suitable nourishment.

The *Estrus ovis*, or sheep bot-fly, on the contrary, selects the nostrils of its victims as the most appropriate place to plant its offspring.

The *Hypoderma bovis*, or ox bot-fly, plants its eggs in the skin of cattle, where they form tumors, in which the larvæ dwell. Another species of this same genus (the *Hypoderma tarandi*) is found in the skin of the reindeer.

The species of *Cuterebra* inhabit the internal organs of squirrels, rabbits, mice and other small animals. Other species infest dogs and other quadrupeds, and even the frog is said to have its bot-fly. Nor is man himself wholly exempt from their attacks.

But at present we are concerned only with the history and habits of the species which infests sheep. As a general, and until recently supposed universal, rule, the flies deposit eggs from which the maggots are hatched. But recently Prof. Riley, on the authority of Mr. Cockrill (who produces the statements of two other witnesses), and some facts known in regard to the habits of this species, arrives at the conclusion that it deposits living young. While the usual habits of the species of this family appear to be opposed to this idea, and the great difficulty of making direct observations might lead us to doubt the correctness of this conclusion, yet it is well known to entomologists that similar departures from normal habits do occur among insects, and the difficulty of the egg maintaining its situation until hatched would seem to favor this idea. Repeated dissections of gravid females would appear to be the only feasible means of determining this question. This appears, from Prof. Riley's statement, to have been done in two instances, showing living young. The parent fly deposits her eggs or larvæ, as the case may be, in the nostrils of the sheep. As soon as the larvæ are deposited or hatched, they at once commence to make their way up the nostrils to the frontal sinuses, causing great irritation to the lining membrane; here they attach themselves firmly by the little hooks with which the mouth is furnished, and feed on the mucus, which is always found here. While young they are of a creamy-white color, except two brown spots on the hind segments, which are the breathing pores. When full-grown they are darker, varying from a dirty-white to a brown, the hinder portion being darker than the front; these differences in color represent, more or less distinctly, rings corresponding with the segments, not reaching around the body, but leaving a pale space along each side, which is marked by a row of brownish dots, representing the breathing pores. The under side is marked between the ventral rings with bands of minute dots or tubercles, which are tipped with little short spines, which, if examined with a magnifier, are found to be of a reddish color, and to point backward. It is now shaped somewhat like a beet, largest behind, and tapering to the head, which is quite small. Kollar states that it is without the ventral spines usually found in the larvæ of this group of insects, but, although minute and not easily seen, they are, nevertheless, present, for without them we could hardly explain its power of moving forward on the unctuous mucous membrane.

Having entered the nostrils in the middle of the summer, worked its way to the frontal sinuses, and gradually attained its full growth, it remains here until the following spring, when it loosens its hold and works its way down the nose, producing great irritation in the membrane and uneasiness in the animal, and drops to the ground. It rapidly burrows into the soil out of view, and in a short time, two or three days at most, transforms into a chrysalis. It remains in this state six or eight weeks, and then comes forth from its hiding-place a true two-winged fly, somewhat larger than the common house-fly, but resembling it in general appearance. The head and thorax are brownish; the abdomen consists of five segments, or rings, which are velvety, and variegated with brown and dull yellow, or, as Youatt has expressed it, "tiger-colored on the back, being prettily striped and marked."

As before stated, its mouth is so imperfect and undeveloped, that it may be said to have none. It is, therefore, wholly unable to imbibe

nourishment, its only mission now being to produce and provide a place for its offspring.

Such, in brief, are the characteristics and history of this pest of the sheep-fold; a history which leads up to the threshold of those difficult problems in the plans of the infinitely wise author of Nature—problems which we shall probably be unable to solve until human investigation has brought to light the most profound mysteries of nature, and is able to weave them into one continuous web.

The question raised by Messrs Youatt and Clark, as to whether these insects are really injurious to otherwise healthy sheep, I leave to practical sheep-growers to decide; taking it for granted, however, that the very large majority of sheep-raisers differ from these able veterinarians on this point, and very decidedly prefer that their flocks should always remain exempt from their attacks. It is more than probable, however, that fatal results are often attributed to them which are due to other causes, and that they, in fact seldom cause death to sheep otherwise healthy.

The remedies may all be classed under three heads:

- 1st. Change of situation to where they are less liable to attack.
- 2d. Measures designed to prevent the deposit by the mother fly.
- 3d. Removing the larva or grub after it has become seated.

That some situations are more infested than others I think will be found true. Kollar, who wrote for the benefit of Austrian agriculturists and gardeners, speaking of this insect, states that "young flocks are sometimes attacked by this plague when they frequently graze near woods." I am satisfied that high, dry, firm, open, airy situations will be found much less infested by this pest than low, moist situations, where there is thick undergrowth and close hot air.

There are various means adopted which are designed to prevent the deposit of the eggs or larvæ by the parent fly. the old and well-known method of tarring the nose is, perhaps, one of the best and simplest. The removal of the grub after it has become seated is difficult; putting something into the nostrils to cause severe sneezing is, perhaps, the only plan worthy of trial, for the barbarous method of trepanning the skull should not be resorted to. But the matter of remedies I leave to the practical sheep-raisers and the veterinary surgeon, as I claim no practical knowledge in this respect.

It is sometimes supposed by those who have not studied the character of the grub, that it may bore through the bony wall of the skull into the brain; but this is simply an impossibility, as it has no organs or weapons with which it can bore.

THE SHEEP TICK. (*Meolophagur ovinus*, L.)

The next species to which I call attention is the "sheep-tick" (*Melophagus ovinus*), which, notwithstanding its name, is not a tick in the true sense, but a wingless fly, and belongs to the same order—

Diptera—to which the bot-flies belong, but to a different and very singular family, which entomologists have named *Hippoboscidae*. These insects are distinguished by their flattened and somewhat horny bodies, the horizontal, flattened head, which is received into the front part of the thorax, and the rudimentary antennæ. Some of them possess wings, but others have these members aborted, or are entirely without them, as in the case of the sheep-tick. The front part of the body of this species is unusually small; the head is somewhat wider than the thorax, which is very narrow; the mouth, or proboscis, is as long as the head; the limbs are short and thick, and the abdomen, "which is broad and hairy, is not divided into rings, as that of flies usually is." It is of a pale, reddish color; the abdomen is lighter, with an irregular white line along each side, and a red spot on the back.

The mode of reproduction in these flies is very singular and unusual. They produce neither eggs nor larvæ; the egg-duct or tube has an enlargement which produces a milk-like secretion for the nourishment of the larva, or young maggot; the egg—for they usually give birth to but one or two young—passes from the ovary to this enlargement, and hatches into a larva, which is nourished here, during this stage of its existence, upon the milk-like fluid before alluded to, until it passes into the pupa or chrysalis state, at which time it leaves the body of the parent. Instead, therefore of producing eggs or larvæ, they produce pupæ. Therefore, strange as it may seem, we see in this very low type of animal life a somewhat close imitation of the method of reproduction observed in the higher animals.

The remedies for this pest may be placed under two heads, as follows:

1st. A change of situation similar to that recommended in the case of the bot-fly.

2d. Measures for removing the ticks.

So far as the latter are concerned, I suppose the wool-growers present are doubtless familiar with the remedies suggested by Randall, Youatt, Clark, and other writers, which consist in dipping in decoctions of tobacco, arsenical solutions, applications of mercurial ointment, etc. To these I have nothing to add, as these, if properly followed, will suffice to eradicate them. As the only cure after they are on the sheep consists in eradicating the insects, this must be left to the ingenuity and practical knowledge of the shepherd. I have seen it stated somewhere that kerosene may be used with success, but I am not sufficiently acquainted with sheep to tell to what extent such remedies may be applied with safety.

THE SCAB MITE. (*Peoroptes equi*. Gerv.)

These little parasites, as the reader will learn from the introductory part of this chapter, are not true insects, but belong to the *Arachnida* or spider class and order *Acarina*, which contains the mites.

This order contains a very large number of species and has been arranged by Murray, a very recent English authority, into the following families and sub-families:

Subdivisions of Acarina.

Fam. 1. *Trombididae*.

Sub-fam. 1. *Tetranychinae*, Spinning mites.

2. *Trombidinae*, Harvest mites.

2. *Bdellidae*, Snouted harvest mites.

3. *Hydrachnidae*, Water mites.

4. *Gamasidae*, Insect mite-parasites.

5. *Ixodidae*, Ticks.

6. *Halacaridae*, Marine mites.

7. *Oribatidae*, Beetle-mites.

8. *Acaridae*.

Sub-fam. 1. *Hypoderinae*,* Subcutaneous mites.

2. *Hypopinae*, Ichneumon mites.

3. *Tyroglyphinae*, Cheese mites.

4. *Sarcoptinae*, Itch and louse mites.

5. *Phytoptinae*, Gall and bud mites.

The scab mite of the sheep, which is now believed to be the same species as that infesting the horse and ox, belongs to the eighth family, *Acaridae*, and fourth sub-family, *Sarcoptinae*, which also contains the human itch mite, or mite that produces the disease in man known as the itch.

The scab, as all are aware, is a skin disease analogous to the mange in the horse and itch in man, and, like these, is produced by a very small mite. It was for a very long time supposed that this mite was produced spontaneously, by an unhealthy and unclean condition of the flocks, or from insufficient or improper food, etc., and not from a preceding parent. According to Westwood, two such able entomologists as Burmeister and Kollar leaned to the idea of equivocal generation of these parasites. But such erroneous ideas as these in reference to these mites have at last been corrected—at least so far as authors and naturalists are concerned—as it is now known that they are produced from eggs, deposited by parents similar to themselves.

As before stated, the species belonging to the class *Arachnida*, are distinguished from insects and most other minute animals, by the fact that they possess four pairs of legs; though there are some exceptions to this rule among the mites, some of which, in the perfect or full grown state, and several in the immature state, having only three pairs.

The sub-family *Sarcoptinae* is distinguished from the other groups of the family by the striated or finely grooved skin; by the suckers with which the feet are usually provided; and by being destitute of eyes.

* I have changed the termination of the sub-families to correspond with present custom.

Our parasite has received various scientific names, according to the fancy or opinion of authors; but, as the further history of its classification is unnecessary now, I will mention but two of these:

1st. *Dermatodectes ovis*, sheep-itch-mite of Gerlach, by whom it was considered as peculiar to sheep; but the most recent authority restores the name *Psoroptes equi*, horse itch-mite of Gervais, considering the species infesting the horse, cattle and sheep, as identical.

It is distinguished from the itch-mite of man (*Sarcoptes scabiei*, Latr.) by two or three important characters. The four anterior legs and two of the hind, at least, in the males of each species are furnished with sucking disks, placed on comparatively long pedicels or stems. In the itch-mite of man, so far as I can ascertain, these pedicels are only one-jointed. But the most important difference is, that the mouth of the human itch-mite is furnished with sharp scissor-like jaws or nippers, with which they can readily cut into the skin, and form their sub-cutaneous burrows. The sheep mite is furnished with comparatively slender, lancet-like mandibles, to the sides of which the little palpi, or mouth-feelers are glued, thus forming a sort of tube, one part of which is capable of piercing. But while this peculiar form of the oral apparatus enables them to pierce and suck, it deprives them of the power of cutting; and hence, notwithstanding the general opinion to the contrary, they are not sub-cutaneous in their habits, and do not form true burrows, as the human itch-mite.

It lays its eggs on the surface of the skin, to which they adhere by a gluey matter. The length of time these require to hatch in such situations is not positively known; but some, placed in a bottle and kept to the warmth of the body, hatched in fourteen days. The young which are produced from these have only six legs; but, after several changes of skin, or moultings, they acquire eight, which is the normal number of the class. With the little sucking disks of their feet they are enabled to cling firmly to the skin of the sheep. By piercing the skin with their lancet-like mandibles, irritation and a species of inflammation of the skin follows, and an exudation takes place, which ultimately forms the scab. As stated by a writer on this subject, "Examination will disclose spots on the skin, white and hard, the center marked with yellow points of exudation, which adheres to the wool, matting the fibre together. The wool may be firm on these spots, and no scabs are seen in this stage. Then the yellow moisture evaporates, gives place to a yellow scab, which adheres firmly to the skin and wool. Raw places appear at points which the animal can reach with its teeth and hind feet. The disease is complicated in summer by the presence of the larvæ of the blow-fly, the maggots burrowing under the scab."

The remedies are reduced to one class—those which have for their object the destruction of the mites and their eggs. In addition to the applications of arsenical and mercurial ointments, arsenical and tobacco washes, which are so generally recommended, the writer from whom I have just quoted strongly recommends a wash of dilute carbolic acid.

THE LIVER FLUKE—(*Distoma hepaticum*.)

Of the intestinal worms that attack sheep, we notice as the most important the Silver Fluke (*Distoma hepaticum*). This species, belonging to class *Scolecida* order Trematoda or "Suctorial worms" as given above, inhabits the gall bladder or ducts of the liver in sheep, and, as believed, causes the disease known as the "rot." It derives its common name from its resemblance in form, to the flounder, of which "flake" is a Scotch and Old English name. It is somewhat broad and flattened, of an elongate ovate form, somewhat pointed at each end and is usually nearly an inch long, often much less, but occasionally more; its breadth at the widest part, which is towards the front, is about half its length. Its color is usually that of the organ in which it resides. It belongs to a very low type of beings; having neither eyes, true respiratory organs, heart, nor any other organ of special sense; the sexes are not even distinct, and the alimentary canal does not even pass through the body, but dividing and subdividing, permeates all parts of it, distributing the imbibed nourishment, which needs little or no assimilation to adapt it to use in forming the materials of the body. It is proper to state, however, that Youatt and other writers on sheep, distinctly affirm that flukes have eyes and even figure them. But what possible use they have for these organs, in the situation they occupy, it is impossible to say, and moreover, without nerves, of which there are but mere traces, these organs would be entirely useless, even if they were in the light. That they do possess eye-like spots at a certain stage of their life is true, but there is nothing to show that these are organs of sight or eyes in any true sense. What this author considers the heart and circulatory system, is probably the water vascular system found in these and all other animals belonging to this class, which is supposed by many to represent the respiratory system in the higher grades. He also supposes the eggs or spores, after being cast off, remain undeveloped until taken into the stomach by the sheep with its food, which, as will be seen, is an error.

The species belonging to this order vary considerably in their transformations and habits, some passing through a cycle of six forms while others present only three or four. Some infest the liver or hepatic ducts of vertebrates, others infest the intestines of birds and batrachians, the gills of fishes, or paunch of ruminants; while others are found imbedded in the vitreous humour and lens of the eyes of certain fresh-water fishes such as the perch.

The cycle of changes through which the liver fluke of the sheep passes has not been fully traced, but the life-history of *Distoma militare*, another species of the same genus, which inhabits the intestines of water birds has been nearly completely traced, and from it we may, with what we know of the life of the liver fluke, form a somewhat correct idea of the history of its transformations.

This species, as stated, in its perfect or mature state resides in the intestines of certain water birds. The ova or spore-like eggs which it produces are few, some eight or ten in number. From each egg issues a ciliated larva, which still retains something of the character of an egg although active, as there is an outer envelope in which there is the real animal, or in which it is developed, its history at

this point of its life being yet imperfectly known. From this egg-like larva proceeds the second larva form which is known as a *Redia*. Its mode of development in this form is not fully known. It is now found attached usually to the body of some water snail (*Paludina*), the cilia of the first larva having now disappeared. When the *Redia* or this second larva form has acquired its complete growth it is somewhat of an arrowhead shape; consisting of a sac, within which is suspended a tubular bag containing colored masses, which Huxley supposes are alimentary. The head is represented by a kind of crown, and near the other extremity are two lateral projections. In the body cavity external to the tubular sac vesicles now appear which rapidly increase and assume the form of *cercariæ*, the name given to the third larval stage. The *Redia* now bursts and these new *zooids* escape. This multiplication at an intermediate and incomplete stage, before sexual characters have appeared, is very remarkable and introduces to our view a strange feature in animal life.

The *Cercaria* resembles a peanut with a slender tail attached to one end; it also has lateral membranous attachments by means of which it swims after the manner of a tad-pole. After swimming free for a certain length of time it finally fixes itself upon and usually bores its way into the body of a water snail or some similar mollusk. The tail then drops off and the body encloses itself in a cyst. The coronal hooklets of the perfect form now appear. It now remains quiescent unable to develop further in its present situation; awaiting for some water-bird to swallow the mollusk in which it is imbedded. As soon as this is done, and the cyst set free in the alimentary canal of the bird further development begins and the complete or *Distoma* form is assumed. The body elongates and narrows anteriorly, the suckers move nearer the head and the circle of hooklets being complete, it attaches itself by these to the walls of the intestine.

Such is the strange life history of this intestinal worm; and although that of the liver-fluke may vary in some respects yet it is doubtless similar in a general sense.

The following outline given in my address before the Illinois Wool-Growers' Association, September 20, 1877, is probably substantially correct:

They produce a kind of spore or egg; but its subsequent progress, so far as it is at present known, presents one of those singular life-histories occasionally met with in the lower orders of animals. In some way, not well understood, this egg or germ spore makes its way to the external world; its history from this time until it is hatched is unknown; but moisture in some form is probably necessary to its development. It is next found in the body of some mollusk, as the snail, or some aquatic insect, where its form is so different from that of its after life, that it was long considered as appertaining to an entirely different group of animals. From these, in some way not yet ascertained, it passes into the sheep. It probably escapes from the mollusk or insect to herbage in moist places, or water, and is taken into the stomach of the sheep with its food or drink, and passes through the lacteals, and makes way to the ducts of the liver.

As sheep do not feed on mollusks, as the water-birds do, it is difficult to imagine how the *Cercaria* if it becomes encysted in the body of the mollusk, makes its way into the stomach of the sheep. It is possible this may be explained in one of two ways: First, as has

been stated above, the *Cercaria* is for a time a free swimmer and hence may be taken into the stomach by the sheep when drinking, or attached to herbage in damp places. Second, it has been ascertained by Van Beneden, that some species of this group pass to the mature state directly from the *Redia* stage without undergoing the intermediate or cercaria stage, as these are free they may be taken into the stomach in water or on damp herbage.

As before stated, these internal parasites are supposed to be the cause of rot in sheep, though many persons are inclined to believe they are a consequence, rather than cause, of disease. But all appear to agree that this disease is connected with the condition of the soil, or state of the weather, moisture being the element most likely to produce it. This corresponds exactly with the theory of its life-history which I have presented, and indicates the best means of preventing it, to-wit: give them well-drained, open, airy pastures, and proper protection in damp and rainy seasons. It is more than probable the condition of sheep is often attributed to this disease, when it is due to other causes. Randall asserts that he has never witnessed an instance of rot in the United States; yet I notice in the annual reports of the National Agricultural Department statements of large numbers dying annually of this disease.

For the numerous remedies which have been suggested, I refer you to the various works on sheep, and to the veterinary surgeons.

HYDATID OF THE BRAIN (*Cœnurus cerebralis*).

Another very singular and fatal disease, known as turnsick, staggers and sturdy, or more correctly, "Hydatid of the brain," is caused by a parasitic worm belonging to the same class as that just mentioned, but to the order *Cestodea*, or Tape-worm group. On examining the brain of a sheep which has died from this disease, a watery bladder, sometimes quite small, at others as large as a hen's egg, is found; It possesses a number of heads, which are distributed over the bladder, each having an oval orifice, surrounded by minute, sharp hooks, within a ring of sucking disks. On account of its numerous heads, it has sometimes been called *Hydatis polycephalus cerebralis*, or the many-headed Hydatid of the brain. With the sucking disk, they fasten themselves to the brain, and, by means of their hooklets, which appear to be a kind of ciliæ, it is supposed they imbibe food. The fluid of the bladder is usually clear, but sometimes turbid, when, if carefully examined with a microscope, it will be found to contain a number of minute, worm-like bodies or animalcules.

It has now been ascertained that these cystic or bladder worms, so far as their history has been traced, or early stages in the lives of tape-worms, these heads which are seen attached to the bladder ultimately forming the head of the tape-worm.

Prof. Huxley has presented strong reasons for believing that the minute worms seen in the bladder ultimately become the joints of the tape-worm, each of which, in turn, is capable of producing under favorable circumstances, another cystic, or bladder-worm. But the strange part of the history of these similar animals is the fact that these two stages of life cannot occur in the same animal; or, in other words, the cystic or bladder-worm in one animal will never develop into the tape-worm, until it passes into another animal. For example, the bladder-worm found in the flesh of the hog becomes the tape-worm in man; the bladder-worm of mice becomes the tape-worm in the cat; that of the hare the tape-worm of the fox; while that which produces hydatids in man becomes the tape-worm in the dog.

Taking these facts as a guide, I am led to believe that the bladder-worm found in the brain of sheep is but the early stage of a tape-worm found in some other animal; probably the wolf, dog, or some carnivorous animal. How it escapes from its bony prison, or is taken up, I do not know; but they are very tenacious of life, and may possibly pass into the stomach of other animals long after the death of the sheep, and still be developed. It is possible the history of this species has been traced; but, if so, I am not aware of it.

No adequate remedy has so far been found, nor is it likely there will be; but, fortunately, its occurrence in this country appears to be rare.

In addition to the foregoing, there are a few other parasites which occasionally infest sheep to an extent sufficient to do them considerable injury. Of these I simply mention the following:

Tænia plicata; or, the folded tape-worm. I am unable to give the history of this species; nor am I aware that it has ever been ascertained. From what we know of the life-history of other species, it is difficult to account for the presence of a tape-worm in a purely herbivorous animal. So far as known, the cystic, or bladder-worm, which is the young or preliminary stage of the tape-worm, is always found in a different animal from that in which the mature tape-worm occurs.

Ascaris lumbricoides.—The round worm of the intestine. These are worms which inhabit the small intestine; and, according to Mr. Spooner, on whose authority they are introduced here, it would appear to be the same species as that in man; but it is more than probable that the nematode worm observed was some other species of *ascaris*. These species are said to give rise, especially in lambs, to severe diarrhœa.

The foregoing is but a partial list of the insects and other parasites that infest domestic animals; and is given here because of the frequent calls on me in reference thereto. This is a subject that belongs more properly to the Veterinary Surgeon.

MANUAL OF ECONOMIC ENTOMOLOGY.

PART III.

THE ACRIDIDAE OF ILLINOIS.

ACRIDIDAE is the name of a family of insects belonging to the order ORTHOPTERA. This order, as stated in my first report, is distinguished from the other orders of insects by the following characteristics:

The upper wings are leathery, or parchment like, one overlapping the other more or less at the base and not meeting in a straight suture along the back as do the upper wings of beetles (except in the *Forficulidæ*); under wings thin and membranous, folding lengthwise like a fan; transformations incomplete, that is to say, there is no true chrysalis state as in the case of beetles and butterflies, but from the first they have the form of the full-grown insect, only differing in size and absence of wings; they undergo moults, but have no quiet, resting pupa stage in which feeding is suspended, but continue to eat from first to last with equal vigor, except during the short time they are undergoing their moults.

The order embraces a large number of species which differ much in appearance and characters, and are generally known in this country by the common names Earwigs, Cockroaches, Devil's-horses, Walking-sticks, Grasshoppers, Katy-dids and Crickets.

Each of these names represents a distinct family of the order, thus:

Earwigs—the family. *Forficulidæ*.

Cockroaches—the family. *Blattidæ*.

Devil's-horses—the family. *Mantidæ*.

Walking-sticks—the family. *Phasmidæ*.

Grasshoppers—the family. *Acrididæ*.

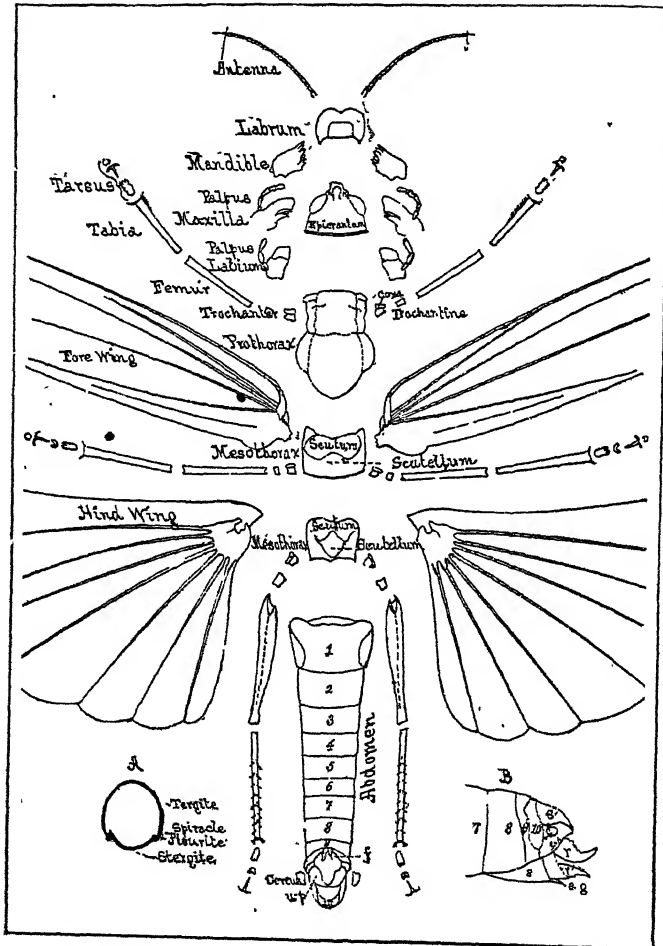
Katy-dids—the family. *Locustidæ*.

Crickets—the family. *Gryllidæ*.

Other insects and other families are included in the order by some entomologists, but there appears to be a general agreement that those mentioned here are properly embraced in it; besides these are all that can be included under the definition or characteristics given.

One difficulty experienced in attempting to convey to the general readers, who have devoted no special attention to entomology, correct ideas in reference to the species and groups of this order, is the fact that the popular names are so variously applied that they cannot be used without special explanation. For example, a true Earwig is an insect resembling a slender flattened beetle with short wing-cases; whereas the name is often applied, at least in parts of our state, to certain elongate, slender, many-legged centipedes found under stones, bark, etc., especially to the species of *Geophilidæ*. The name "Devil's Horse" is not uniformly applied to the Mantis, but often to our Phasmae, or "Walking-sticks." The common name "grasshopper" has likewise been unfortunate in its use and application, not only in a popu-

FIG. 7.



External Anatomy of Locust (*Caloptenus spretus*. Thos.) showing the parts dissected, dorsal view.

A. Cross section of the abdomen.

B. Lateral view of the terminal segments of the female abdomen.

lar sense, but even by scientists, referring at one time to the true locusts (species of *Acrididæ*), and at another to the *Locustidæ*, or family including the katy-dids, and the greenish species with long slender antennæ that are found upon the higher grass, weeds and bushes. In fact the term, as generally used, applies to most of the species of these two families, the term "katy-did" including but a comparatively small portion of the *Locustidæ*.

The name "Locust" has unfortunately been applied in this country to an insect not even belonging to the same order as the locusts of oriental countries. The "seventeen-year locust" of North America is, in fact, not a locust, but a species of *Cicada*, or, as another species of the same group is often called, a "harvest-fly" or "dry-fly," belonging to the Order *Hemiptera*, which contains only insects with a mouth prolonged into a horny, jointed tube, formed for sucking the juices of plants; while true locusts have biting-jaws; or, as they are termed by the prophet Joel, "cheek-teeth." The grasshoppers which have appeared in such vast swarms and done so much mischief in the western states and territories are true locusts, and this term is gradually coming more and more into use in the proper sense.

Before entering upon the classification and description of our species, it will be best for me to explain the peculiar terms used, and the peculiar application of the general terms as they are used in describing species and genera of *Acrididæ*. The terms *head*, *thorax*, *prothorax*, *mesothorax*, *metathorax*, *abdomen*, *antennæ*, *femur*, *tibia*, *tarsi*, and the names of the mouth parts, are applied in the same general sense as in other orders, and as explained in my first report. The insect when described is presumed to be on its feet and the wings closed as represented in Fig. 10, (except, that in describing the under wings they are considered as spread.) The necessity for mentioning this fact is, that the relative terms *anterior*, *posterior*, *outer*, *inner*, *upper* and *lower* apply to the position of the insect or its parts; and unless these are known there will be confusion in the use of these terms. Anterior, before and forward, will then signify toward the front part of the head; posterior behind and similar terms, will signify toward the hind extremity of the abdomen; upward, above, toward the back, and the opposite terms toward the under or ventral side; lateral signifies toward or on the side; transverse, across the body or part described; and longitudinally, lengthwise of the body or part described. The term "transverse" is also often used to signify that the piece or part is broader than it is long, length always retaining the idea of the direction of the length of the whole insect.

The parts of the head which need special explanation are the following: The *clypeus*, the piece in front, immediately below the face, in the form of a transverse parallelogram, "tucked" at the sides; when the face is very oblique it is really underneath, but still the face is considered the front. The *frontal-costa* or *median carina* of the face, is the ridge which extends down the middle of the face; it is often grooved, when it is said to be *sulcate*, *sulcus* signifying a groove. Running down each side of the face there is usually a sharp ridge or raised line, called a *lateral carina*; the two forming the *lateral carinæ* of the face. The top of the head, which is really the back of the head in *Acrididæ*, is considered as divided into two parts by an imaginary line drawn across it from the hind margin of one eye to the hind margin of the other; the portion lying behind this line

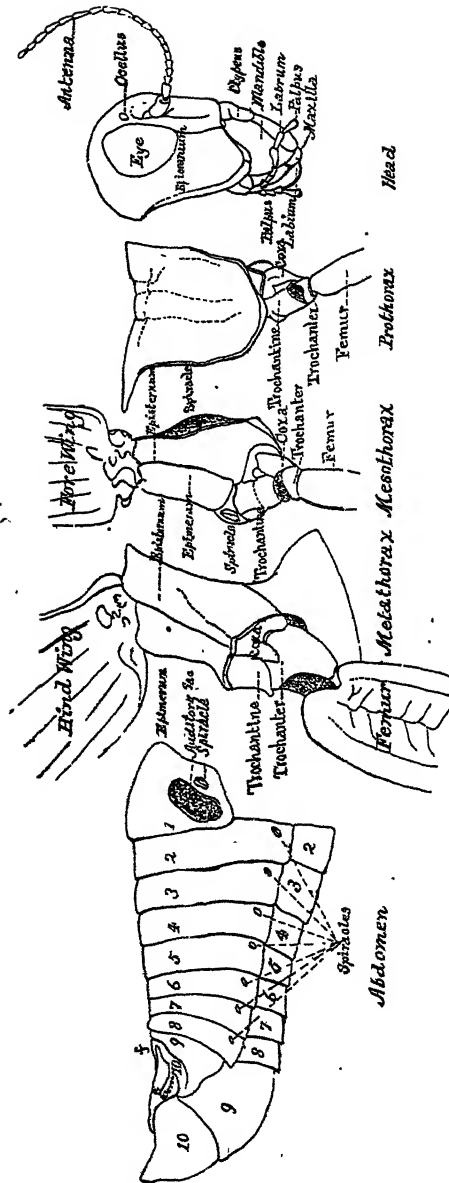


FIG. 8.

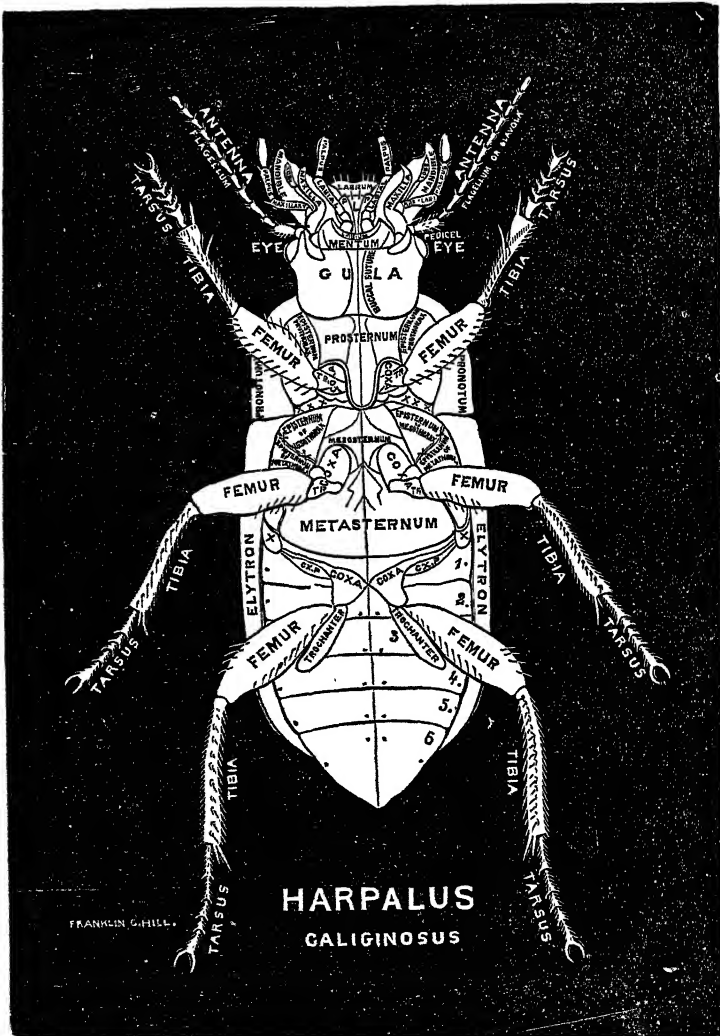
Lateral view of the external anatomy of the male Locust (*Caloptenus spretus*), showing the parts dissected

is the *occiput*; the portion between the eyes and extending forward to where the descent of the face commences is the *vertex*. The vertex presents very important characters in distinguishing genera and species and hence needs special explanation; in some species it ascends anteriorly, in some it is horizontal, but more usually is more or less deflexed, that is, sloped downward and forward; its extreme anterior point is the *fastigium*; sometimes the margins are raised so as to enclose a foveola or shallow cell between the eyes, which is called the *median* or *central foveola* of the vertex. The *lateral foveolæ* or *temporæ* are two small cells situated on the margin of the vertex, one on each side near the front border of the eye; sometimes on the upper surface near the edge; in other species, below the margin on the deflexed portion. These foveolæ are often very small and sometimes with so little depression as to appear flat, but on account of their uniformity are important characters. The simple eyes (*ocelli*, singular *ocellus*) are three little glassy dots placed as follows: one above the base of each antenna and near the inner margin of the true eye, and one in the frontal costa between the antennæ.

The thorax is, as in other insects, composed of three parts, or segments; the front part or *prothorax*, the middle or *mesothorax*, and the hind or *metathorax*; but the front division, on account of the fact that the upper or dorsal portion is generally enlarged in the form of a saddle-shaped shield hiding the divisions, is the one chiefly referred to in descriptions. This shield, which covers the front part of the body immediately behind the head, usually reaching down the sides nearly or quite to the insertion of the front legs, is the *pronotum*; it usually extends back on the dorsum of the thorax so as to cover the base of the elytra; in the sub-family *Tettiginæ* it extends backward over the abdomen to its extremity; in a few wingless species it is not shield-shaped, but similar to the dorsal portion of the other segments. Its surface is considered with reference to three planes: the upper surface or *dorsum*, and the two sides or *lateral lobes*; where these three planes are well defined, the ridge or angle formed on each side along the line which marks the place where the lateral lobes deflect or bend down from the dorsal plane, is the *lateral carina* of the pronotum. But there are wide variations from this typical form; often the pronotum is so much rounded as to be almost or quite cylindrical when the lateral carinae are entirely obliterated; in some cases they are not only well defined, but in the form of raised lines or little ridges. In most species there is a raised line or keel running along the middle of the back or dorsum of the pronotum, called the *median carina*; this is sometimes but a slender thread-like line; in some species it is slightly elevated, when it is said to be *sub-cristate*; sometimes it is elevated into a very prominent sharp ridge, when it is called *cristate*. In many species there are three, more or less distinct, slender transverse grooves or depressed lines crossing the pronotum from side to side, one or more of which (usually the posterior) cuts the median carina. These are often referred to by the numbers 1, 2 and 3, commencing with the front one. In some groups the number, position and form of the notches made by these in the median carina form important characters. The portion of the pronotum in front of the first of these transverse grooves is the *anterior lobe*; that between the first and third, the *middle lobe* (or lobes); that behind

FIG. 9.

For the purpose of comparison, I give here an enlarged figure of a Beetle (*Harpalus caliginosus*), showing the names of the several parts.



the third, the *posterior lobe*. The *anterior margin* of the pronotum is the margin next the head; the *posterior margin* is the hind margin of the dorsal portion, and is usually in the form of an angle, pointing backwards, or is rounded, but in a few species is truncated or cut off squarely; the *posterior lateral margin* is the hind margin of the lateral lobes.

The *prosternum* is the underside of the prothorax or neck; it is either smooth, that is without a tubercle or spine, or it is furnished with a distinct tubercle or spine between the front legs, called the *prosternal spine*; the species furnished with this are said to have the *prosternum spined, armed or mucronate*; those without it are said to have the *prosternum smooth, or unarmed*.

The upper wings of *Acerididae* are usually called *elytra* (which is the plural of *elytron*), though by some authors they are termed *hemelytra*, by others *tegmina*, and by others simply front wings. When the elytra and wings are spoken of together they are termed "wings."

The elytra are generally in the form of an elongate oval or an elongate parallelogram, narrowed at the base and rounded at the apex. In the perfect insect they usually reach to or extend beyond the tip of the abdomen; but there are numerous exceptions to this rule; in many species they are shorter than the abdomen, and in a few are wholly wanting. When the elytra are absent the wings are also wanting. A little experience will enable any one to distinguish readily between a full-grown, short-winged insect of this family and one yet in the pupa state. When the elytra are folded a small portion lies horizontally on the back, the remainder, and much the larger portion being deflexed vertically against the sides of the abdomen. When describing them they are considered as closed; the upper edge, which runs along the back is termed the *posterior, anal, or upper margin*, some authors using one of these terms, some another; *inner margin* is also occasionally used for the same part; the lower edge is the *costal, anterior or lower margin*; when "posterior" and "anterior" are used the elytra are then considered as spread. The area of each elytron is divided into three *fields* or spaces by two strong, longitudinal veins that start out from the *base* (part that joins the body); the larger of these, which runs a little distance from the costal margin, is the *externo-median* vein or nerve; the other which runs from near the middle of the base backward and upward toward the posterior or upper margin is the *interno-median* vein. The three fields into which the area is divided by these veins have received the following names: that between the externo-median vein and costal margin, is the *anterior, costal or lower field*; that between the interno-median vein and the upper or posterior margin is the *anal, posterior or upper field*; the middle area lying between these two veins is the *discoidal, intermediate or middle field*. The term area is often used instead of field, and is interchangeable therewith; the two words "vein" and "nerve" are likewise used interchangeably. The *angle* of the elytra is the longitudinal ridge formed along the interno-median vein by the sudden flexure from the horizontal to the vertical portion when closed.

When describing the wings they are supposed to be fully spread. The terms *disk* and *base* are sometimes, though not correctly, used synonymously, referring to the moiety of the wing next the body; the disk is really the central portion, and the base the part connecting with the body. The term *submarginal, or subcostal area* is used to

designate the space between the costal or anterior margin and the first strong vein behind. The nerves or veins are the ribs that run from the base to the outer margin, and from the lines of the folds when the wings are closed. The *nervules* or *veinlets* are the minute transverse veins running from one rib to another. The *anal* or *posterior angle* is the angle which stands near the tip of the abdomen when the wing is spread.

The parts of the abdomen which deserve particular notice are the following. The *cerci* which are two short processes issuing from the sides of the abdomen near its tip; one on each side arising at the base of the last segment and pointing backward; these, in some groups, are much larger in the male than in the female, and present important specific characters. The apex of the ventral (or under) portion of the last segment in the males, usually curves upward, somewhat in the form of the prow of a ship; in some species it is elongated and pointed, in others somewhat triangular and occasionally notched, and in others obtusely rounded; this portion of the last segment has been variously named, *sub-genital plate*, *subanal plate*, etc. The *pre-anal* or *super-anal* plate or lamina, is the triangular piece which in both sexes lies over the anal aperture; above and resting on the base of this plate is a little forked piece to which the name *super-anal furculum* has been applied. The *ovipositor* of the females consists of four short horny pieces projecting from the tip of the abdomen; two of which curve upward, and two downward; these are the *valves*.

CLASSIFICATION.

As explained in my first report, *Orders* are divided into *families*; families into *genera*; and a genus is composed of *species*. Besides these regular divisions in classification, there are often found to be characters by which well defined intermediate groups may be found; for example, the order *Orthoptera* will admit of two well marked sections, distinguished from each other by the fact that the species of one section have all the legs similar to each other in length, so as to fit them only for running or walking, and not having the hind legs elongated and fitted for leaping; while the species of the other section have the hind legs elongated and fitted for leaping. We may therefore call the first section, which includes the *Forficulidae*, *Blattidae*, *Mantidae* and *Phasmidæ*, the *Cursorial Orthoptera*, or *Cursoria*; and the other, which includes the remaining families, as the *Saltatorial Orthoptera*, or *Saltatoria*.

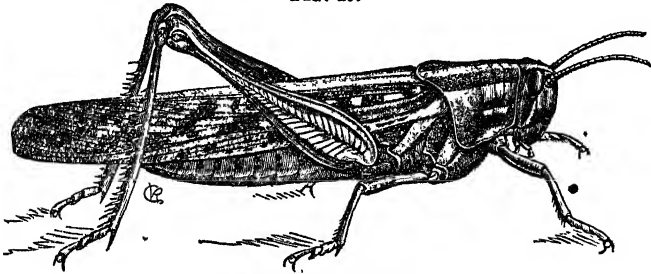
For convenience in locating genera and species, I have divided the family *Acrididae* into three sub-families: PROSCOPINÆ, ACRIDINÆ, and TETTIGINÆ. The characters by which these groups are distinguished from each other may be briefly stated as follows:

PROSCOPINÆ.—Body unusually elongated, cylindrical and slender, almost uniform in size throughout its length, and usually wingless. The

head elongate conical, and either ascending obliquely or extending forward horizontally; antennae very short, usually not extending beyond the tip of the vertex, and composed of from six to nine joints. The prothorax very long, slender and sub-cylindrical, having no pronotum in the sense of a shield, as in the other acridians; the pronotum here being simply the dorsal portion of the prothorax, as in the *Phasmae*, which they strongly resemble; the anterior legs are generally attached to its sides near the middle. The mesothorax and metathorax are very short, their combined length seldom equalling one-half the length of the prothorax. The hind legs scarcely fitted for leaping. No species of this sub-family are found in the United States.

ACRIDINÆ.—Of various sizes, from half an inch to four inches in length (the largest Illinois species does not exceed three inches). Tarsi furnished with a *pulvillus* or pad between the claws; pronotum, consisting of a kind of shield covering the prothorax and extending

FIG. 10.

*Aeridium Americanum.*

backward, at the farthest, only upon the base of the elytra. In a few wingless species the pronotal shield is not well defined; and on the other hand in one or two genera it extends half way the length of the abdomen. Prosternum drawn up; that is, it is not in the same plane as the rest of the *sternum* or breast; spined, tuberculate or smooth, but never advanced upon the mouth. Elytra and wings generally present, but sometimes wanting; but when present the latter never exceed the former in length. This sub-family contains all the true locusts and most of the species to which the name grasshopper is usually applied.

TETTIGINÆ.—Generally of small size, many being less than half an inch in length, and few, if any, exceeding an inch. Tarsi, without pads between the claws. Pronotum, forming a shield over the entire body, extending back nearly or quite to and often beyond the tip of the abdomen; sometimes flat, sometimes keeled and arched, and in a few species elevated into a sharp, foliaceous crest. Prosternum depressed to the same plane as the rest of the sternum; advanced upon the mouth, and usually furnished with a semi-circular ridge, forming a kind of muffer into which the mouth may be drawn. Elytra and wings, when present, generally placed on the sides of the body, the latter exceeding the former in length.



Tettix.

Further subdivisions are sometimes introduced between the sub-family and genus, but it is unnecessary for us to allude to them at this time.

Having now explained the special terms used and the system of classification adopted in reference to this Order and the family under consideration, I will here introduce a short key to the Acrididæ found in Illinois, giving first a key to the families.

KEY TO THE FAMILIES OF ORTHOPTERA.

- | | <i>Families.</i> |
|---|------------------|
| <i>A.</i> Legs similar in length; posterior not elongated nor adapted to leaping (<i>Cursoria</i> .) | |
| <i>a.</i> Body depressed, oval or but slightly elongated; wings resting horizontally on the abdomen. | |
| <i>b.</i> Abdomen armed behind with strong forceps. | 1. FORFICULIDÆ. |
| <i>bb.</i> Abdomen not armed with forceps. | 2. BLATTIDÆ. |
| <i>aa.</i> Body more or less cylindrical; much elongated. | |
| <i>b.</i> Anterior coxæ much elongated; anterior legs raptorial; prothorax much longer than the metathorax. | 3. MANTIDÆ. |
| <i>bb.</i> Anterior coxæ not elongated; anterior legs similar to the others; metathorax much longer than the prothorax. | 4. PHASMIDÆ. |
| <i>AA.</i> Hind legs elongated, fitted for leaping (<i>Saltatoria</i> .) | |
| <i>a.</i> Antennæ long, setaceous, composed of many joints; apex of the female abdomen furnished with an exserted ovipositor, usually more or less sword-shaped; elytra of the males furnished with a stridulating organ. | |
| <i>b.</i> Outer portion of the elytra bent abruptly downward at the sides; tip of the abdomen furnished with two elongate pilose setæ. | 5. GRYLLIDÆ. |
| <i>bb.</i> Elytra sloping obliquely downward at the sides like a roof; abdomen with two short, but not pilose, articulated appendages. | 6. LOCUSTIDÆ. |
| <i>aa.</i> Antennæ shorter than the body, composed of less than twenty-five joints; apex of the female abdomen furnished with four short, horny pieces, two curving upward and two downward. | 7. ACRIDIDÆ. |

As it is very difficult to construct a key to the genera, founded on characters that are readily observed, I will attempt to meet the difficulty by forming separate keys or synoptical tables; one for the groups or subdivisions of the family; one for the genera so far as this can be done with sufficient clearness to be easily understood; and one for our Illinois species. In each of these tables the characters are intended only to include the groups, genera and species represented in Illinois, and the arrangement therein given is artificial.

KEY TO THE SUB-FAMILIES AND GROUPS.

- A. Pronotum extending back only to or but a short distance upon the base of the elytra; pads between the tarsal claws. Sub-fam. ACRIDINÆ.
- a. Face distinctly oblique or sloped under toward the breast in both sexes; the prosternum not spined or tuberculated, except in *Mermiria*. Group 1. *Truxalini*.
 - aa. Face vertical or nearly so, sometimes curved near the clypeus, and sometimes slightly oblique in the male.
 - b. Prosternum neither spined or tubercled, except in *Stetheophyma*, where it is armed with a blunt tubercle. Group 2. *Oedipodini*.
 - bb. Prosternum armed with a distinct spine or tubercle. Group 3. *Acridini*.
- AA. Pronotum extending back to or beyond the tip of the abdomen; tarsal claws without pads between them. Sub-fam. TETTIGINÆ.

KEY TO THE SUB-FAMILIES AND GENERA.

- I. Pronotum extending back only to or but a short distance upon the elytra; pads between the tarsal claws; prosternum drawn up, not in the same plane as the sternum. Sub-fam. ACRIDINÆ.
- A. Face distinctly oblique, or sloped under toward the breast in both sexes; prosternum sometimes spined, sometimes not. Groupe 1. *TRUXALINI*.
 - a. Prosternum armed with a spine; face very oblique. Gen. *Mermiria*.
 - aa. Prosternum unarmed.
 - b. Antennae enlarged and flattened near the base, tapering to the apex; face very oblique; sides of the pronotum parallel; elytra and wings longer than the abdomen. Gen. *Truxalis*.
 - bb. Antennae filiform, sometimes with the apical portion flattened and slightly enlarged, but never enlarged at the base (except in the female of *Syrbula*); face always distinctly, but sometimes only moderately oblique in the females.

- c. Posterior margin of the pronotum truncate; vertex without foveolae; sides of the pronotum straight and parallel; elytra shorter than, or not longer than the abdomen; wings pellucid or but slightly tinged.

Gen. *Chloealtis*.

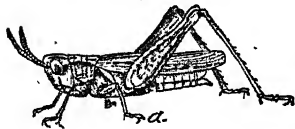
- cc. Posterior margin of the pronotum obtusely angled or rounded; vertex usually with lateral foveolae; sometimes they are wanting; lateral carinae of the pronotum more or less curved, or bent inwards.

- d. Male and female differing widely; in both sexes the elytra and wings pass the abdomen; face quite oblique; eyes ovoid and oblique; lateral carinae of the pronotum but slightly curving inward; posterior lobe of the pronotum somewhat elongate granulose. *Female*.—Antennae slightly enlarged and flattened at the base; foveolae of the vertex nearly or quite obliterated. *Male*.—With the antennae enlarged at the apex; foveolae of the vertex more or less distinct; an inner and discal area of the elytra with distinct parallel or scalariform nervules. Size one inch and over.

Gen. *Syrbula*.

- dd. Male and female similar; nervules of the elytra

FIG. 12.



Stenobothrus maculipennis.
a. Perfect insect. b. Pupa.
c. Larva.

normal; antennae never enlarged at the base, apex sometimes enlarged; lateral carinae of the pronotum distinctly curved or bent inward; foveolae of the vertex more or less distinct; elytra sometimes shorter and sometimes longer than the abdomen. Seldom as much as an inch in length.

Gen. *Stenobothrus*.

- AA. Face vertical or nearly so, sometimes, as seen from the side, curved near the clypeus, and sometimes slightly oblique in the male; the posternum spined in one group, in the other not.

- a. Prosternum smooth or at most but slightly tumid, never spined or tuberculate (*Stetheophyma* forms a partial exception).

Group 2. OEDIPODINI.

- b. Prosternum armed with a tubercle or tumid enlargement of prosternum.

Gen. *Stetheophyma*.

- bb. Prosternum without a spine or tubercle.

- c. Wings pellucid, neither colored nor clouded; pronotum with three distinct carinae, the median continuous; the lateral not elevated, very slightly curved inwards. Size less than medium.

Gen. *Camnula*.

- cc. Wings colored or clouded, sometimes transparent but never truly pellucid in Illinois species; the pronotum various.

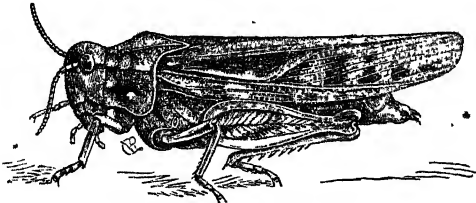
FIG. 13.



Tragocephala viridifasciata.
a. Pupa. b. Perfect insect.

- d. Basal portion of the wings transparent, usually more or less tinged with greenish-yellow; apical portion more or less distinctly clouded with fuscous, but neither crossed or margined by a distinct band; face curved below. Gen. *Tragocephala*.
- dd. Wings variously colored; with a distinct band across them or along the outer margin.
- e. Wings deep yellow or bright red, with a dark band along the outer margin; frontal costa usually more or less distinctly tricarinate above the ocellus; median carina of the pronotum sharp and elevated, sometimes distinctly arched; face curved below. Gen. *Tomonotus*.
- ee. Wings yellow or red, with a dark band across them near the outer border and along the hinder portion of it; median carina of the pronotum minute, or but moderately elevated.
- f. Female large, robust, broad and deep across the thorax; pronotum granulose, or tubercled, rugose; median carina small; lateral carinae generally indistinct on the anterior lobes; vertex foveolate, broad and strongly defined, with a median carina usually visible; wings yellow or red; elytra usually marked with large brown spots; (*phoenicopterus* has the median and lateral carina more prominent, and the foveola of the vertex more elongate, and not quadrate, as most of the other species.) Gen. *Hippiscus*.

FIG. 14.



Hippiscus phoenicopterus.

- ff. Female of one species large, then the wings are black, otherwise not robust, or large; pro-

- notum not granulose or tuberculate (except in *Mestobregma* where it is somewhat rugose).
- g. Median carina of the pronotum, prominent, subcristate; cut by but one (the posterior) transverse furrow; wings in one species black with a narrow yellowish marginal band, in other species yellow, with a fuscous band across them. Gen. *Oedipoda*.
- gy. Median carina, small, not prominent, cut in two places.
- h. Head elevated, eyes standing high; two subquadrate black spots on the elytra separated by an oblong whitish spot. Gen. *Mestobregma*.
- hh. Head not unusually elevated; elytra banded or sprinkled with minute brown dots. Gen. *Trimerotropis*.
- aa. Prosternum armed with a distinct spine. Group 3. ACRIDINI.
- b. Elytra and wings always present and always as long or longer than the abdomen.

FIG. 15.



Caloptenus femur-rubrum.

- c. Abdomen of the males swollen at the tip; eyes round or oval; not elongate-oval. Gen. *Caloptenus*.
- cc. Abdomen of the male not swollen at the tip; eyes elongate-oval. Gen. *Acridium*.
- bb. Elytra and wings shorter than the abdomen and sometimes wanting; the abdomen of the male swollen at the tip. Gen. *Pezotettix*.
- II. Pronotum extending back over the entire abdomen, to or beyond its extremity; tarsi without pads between the claws; prosternum in the same plane as the sternum. Sub-fam. TETTIGINÆ.
- A. Pronotum arched lengthwise. Gen. *Batrachidea*.
- A.A. Pronotum nearly or quite horizontal.
- a. Antennæ 12 to 14-jointed. Gen. *Tettix*.
- aa. Antennæ more than 20-jointed. Gen. *Tettigidea*.

Remark.—The foregoing table is intended to include only the Illinois species of *Acrididae* as far as known; and no attempt is made to set forth generic characters further than what is necessary for this purpose. It is therefore to be considered as entirely artificial, and for the purpose only of assisting those not acquainted with entomology in determining species and as an exercise for classes in natural history in our common schools. I have endeavored to select such characters as are most readily observed, though not always strictly scientific.

KEY TO ILLINOIS SPECIES OF ACRIDIDÆ.

This key is intended as an aid in determining species, without the necessity of determining the genera. The numbers at the right margin following the names in parenthesis, refer to the number of the species given in the list which follows the key. The other figures, in the body of the key, indicate the usual length of the species in inches and decimals of an inch; *m* signifies male and *f* female.

Sub-fam. ACRIDINÆ.

- I. Face distinctly sloped under the breast; front of the head projecting before the eyes in the form of a blunt cone or pyramid. Group.—TRUXALINI.
- A. Prosternum armed with a spine; a brown stripe each side. (*M. bivittata*.) 1.
- AA. Prosternum not armed with a spine.
 - a. Sides of the pronotum and its lateral carinae straight and strictly parallel.
 - b. Antennae enlarged and flattened at the base in both sexes; elytra passing the abdomen; pronotum rounded or obtuse-angled behind; female much larger than the male. *f* 1.75; *m* 1.10. (*T. brevicornis*.) 2.
 - bb. Antennae filiform in both sexes; elytra shorter than the abdomen; pronotum truncate behind; length about an inch. (*Chloealtis*.) 3 and 4.
 - aa. Lateral carinae of the pronotum more or less curved or bent inward towards the middle.

- b. Elytra unspotted, pale reddish brown, sometimes shorter and sometimes longer than the abdomen. Length less than one inch. (*St. curtipennis*.) 7.
- bb. Elytra spotted, at least in the female, more or less green, as long or longer than the abdomen.
- c. Spots on the elytra in the form of fuscous serrations, in the female; elytra passing the abdomen; female much larger than the male; length 1.25 to 1.50; male olive-brown and yellowish in stripes; length about one inch; antennae of *f* slightly enlarged and flattened at the base of *m*, enlarged at the tip. *S. admirabilis*. 5.
- cc. Elytra with small dusky spots or dots along the disk; female some larger than the male; length less than an inch. *St. maculipennis*. 6.
- *Elytra more or less greenish.
- †Elytra passing the abdomen. *Var. maculipennis*.
- ††Elytra about as long as the abdomen. *Var. aequalis*.
- **Elytra brownish. *Var. propinquans*.
- II. Face vertical, or nearly so; sometimes curved, as seen from the side, and sometimes slightly sloped under, in the male; prosternum not armed with a spine or tubercle. Group OEDIPODINI.
- A. Wings black, with a narrow yellow border along the outer margin; size large. *Oe. carolina*. 15.
- AA. Wings colored or pellucid; sometimes clouded with fuscous, sometimes with a broad black band across them or around the outer border, but never with the disk or basal portion distinctly black.
- a. Wings pellucid; lateral carinae of the pronotum distinct; median carina slightly prominent, straight on top; elytra marked with brown or fuscous spots; length about an inch. (*C. pellucida*.) 24.
- aa. Wings colored or clouded.
- B. Wings with the basal portion transparent, more or less tinged with greenish yellow; apical portion clouded with fuscous, but not banded.
- c. General color dusky-brown; elytra fuscous-brown, with two more or less complete, paler bands across the middle portion; size medium. (*Tr. sordida*.) 10.
- cc. General color greenish varying to dusky-brown, but elytra never marked with cross-bands; size medium. (*Tr. viridifasciata*.) 9.
- *Elytra striped with green and fuscous. *Var. virginiana*.
- **Elytra brown.
- †Elytra ash-brown. *Var. radiata*.
- ††Elytra dark brown. *Var. infuscata*.
- BB. Wings with a distinct dark band across the outer half, or around the outer border.
- c. Wings with the basal portion distinctly red.

- D. Thorax broad, deep and robust; elytra with large brown or dark spots; wings crossed near the outer border with a broad, dark, curved band; size large; posterior femora very broad; median carina of the pronotum moderately elevated.
- E. Pronotum covered, somewhat regularly, with small tubercles, otherwise nearly or quite smooth; posterior femora deep blue on the inner face. (*H. discoideus.* 22.)
- EE. Disk of the pronotum more or less distinctly granulated or shagreened; lateral carinae very distinct and nearly continuous; inside of the posterior femora yellowish or pale, but never blue. (*H. phoenicopterus.*) 23.
- DD. Thorax not broad and robust, but somewhat compressed on the sides and rather narrow; median carinae of the pronotum rather prominent; elytra uniform, very dark brown, or ash brown sprinkled over with darker dots; wings bright red, with a broad, black band around the outer border, occupying one-third the area; size medium. (*T. nictatus.*) 12.
- CC. Wings with the basal half yellow or yellowish.
- ZZ. Median carina of the pronotum cristate, and more or less arcuate; wings varying in color from a bright sulphur to a deep orange; with a broad black border; elytra and pronotum varying from ash brown to dark brown; elytra dimly spotted with darker brown; these spots are sometimes nearly or quite obsolete; size rather above medium. (*T. sulphureus.*) 11.
- DD. Median carina of the pronotum only a raised line, or at most but sub-cristate, not uniform, once or twice distinctly severed; wings crossed on the outer half by an arcuate dark band.
- EE. Body more than usually robust; thorax, especially of the female, broad and deep; pronotum covered more or less with small tubercles; posterior femora very broad.
- FF. Elytra ash brown; spots small somewhat grouped into three indistinct bands; median carina of the pronotum rather slender, usually if not invariably twice notched; size rather above medium. (*H. neglectus.*) 20
- FF. Elytra with large, brownish, irregular spots, not in bands; median carina of the pronotum slender, usually but once severed; size above medium, female large. (*H. corallipes, var rugosus.*) 21
- EE. Body not unusually robust; thorax ordinary or rather slender; pronotum sometimes slightly rugose but not tuberculate or scabrous; posterior femora not unusually broad; size medium.

- F. Median carina of the pronotum cut by but one transverse incision; sub-cristate or at least moderately elevated on the anterior and middle lobes; elytra with three, more or less distinct, bands.
- g. Posterior tibiæ red or reddish; medium size.
- h. General color dark reddish-brown; the notch in the median carina of the pronotum oblique. (*Oe. collaris.*) 14
- hh. General color ash-gray, mottled with dusky brown and white; the notch of the median carina of the pronotum vertical. (*Oe. aequalis.*) 13
- gg. Posterior tibiæ pale yellowish; elytra grayish-brown; dark band of the wings very broad; rather under medium size. (*Oe. belfragii.*) 16
- FF. Median carina of the pronotum small, cut by two transverse incisions; body rather slender; medium size.
- g. Elytra with scarcely any signs of cross bands; almost uniform pale ash-brown, sprinkled over with darker and whitish dots and minute spots; top of the head not more than usually prominent. (*T. maritima.*) 18.
- gg. Elytra with more or less distinct transverse bands; top of the head and eyes standing higher than usual.
- h. Elytra with three tolerably distinct dark bands and two intermediate broad whitish bands; no whitish line along the angle when closed. (*T. verruculata.*) 17.
- hh. Elytra have on the lower field two sub-quadrate black spots, separated by an elongate whitish spot; also a whitish line along the angle when closed. (*M. cincta.*) 19.
- III. Face vertical or nearly so; prosternum armed with a distinct spine. Group ACRIDINI.
- A. Elytra shorter than the abdomen or wanting.
- a. Body robust; resembling a short-winged *Ca-loptenus bivittatus* in form and color, except that the hind femora are distinctly banded, and the lateral stripes are entirely or partially wanting; elytra meeting on the back, vary from one-third to the full length of the abdomen; lateral carinæ of the pronotum distinct; length of the female usually more than an inch. (*P. viola.*) 28.
- aa. Body rather slender, at least not robust, nor resembling *C. bivittatus*; elytra not meeting on the back, less than, or not more than, half the length of the abdomen in the female; rather small, length less than an inch.
- b. Vertex, especially in the male, unusually narrow between the eyes; pronotum cylindrical; posterior femora greenish; elytra minute, not meeting on the back; face somewhat oblique and arcuate. (*P. minutipennis.*) 26.

- bb. Vertex of ordinary width, at least not unusually narrow; pronotum scarcely cylindrical; posterior femora not greenish. Similar in form and appearance to *Caloptenus femur-rubrum*; elytra not extending beyond the second segment (*P. sculderi*) 27.
- AA. Elytra as long or longer than the abdomen.
- A. Elytra without spots, though sometimes striped.
- b. Without stripes; color of pronotum and elytra nearly or quite uniform, varying from olive green to olive brown; tip of the male abdomen swollen; elytra scarcely longer than the abdomen in the female; rather large. (*C. differentialis*) 33.
- bb. A yellow stripe along the middle of the dorsum but none on the sides; color nearly uniform reddish-brown or pale-brown tinged with green; elytra sometimes dimly spotted; tip of male abdomen not swollen; cerci broad and flat.
- c. Elytra pale reddish-brown with more or less of an olive shade; distinctly longer than the abdomen; sides of the pronotum sparsely sprinkled with yellow dots; median carina of the pronotum simply a minute line, inner face of posterior tibiae black; large; 1.3 to 1.75. (*A. emarginatum*) 35.
- cc. Elytra and pronotum, in fact the entire insect, almost uniform reddish-brown; pronotum arched from the sides, forming a prominent median ridge; elytra about as long as the abdomen, medium size. (*A. rubiginosum*) 34.
- bbb. A yellow or pale stripe along each side; no stripe along the middle; tip of male abdomen swollen; general color dull olive or olive-brown; size varies from medium to tolerably large. (*C. bivittatus*) 32.
- AA. Elytra distinctly spotted, either with large cellular, fuscous spots scattered over them, or a row of quadrate spots along the disk.
- b. Elytra distinctly passing the abdomen; size large, female two inches or more in length; tip of male abdomen not swollen; elytra marked with large cellular, fuscous spots on the disk and apical portion. (*A. americanum*) 36.
 *Ground color reddish-brown. *Var. americanum.*
 **Ground color yellowish. *Var. ambiguum.*
- bb. Elytra usually distinctly passing the abdomen, and sometimes proportionally very long, sometimes but slightly longer in the female; size rather under medium; tip of the male abdomen swollen; spots on the elytra rather small, in a row along the discal area.
- c. Tip of the sub-anal plate of the male truncate, not notched. (*C. femur-rubrum*) 29.

- cc. Tip of the sub-anal plate of the male acuminate and notched, notch sometimes minute but never absent.
- d. Essentially and "constitutionally" migratory; a little larger than 29 or 30; wings generally very long. (*C. spretus*.) 31.
- dd. Non-migratory; smallest of the three species; notch in the tip of the sub-anal plate not so distinct as in 31 (*C. atlantis*.) 30.

Remark.—*Stetheophyma lineata* is omitted from this key, because I have no specimen for examination; nor have I attempted to tabulate the *Tettigi*, because of the uncertainty which yet hangs over the specific distinctions. *Pezotettix unicolor* is also omitted.

LIST OF ILLINOIS SPECIES.

This list includes all the species of *Acrididae* known to me to inhabit the State; it is more than probable that other species have been discovered, if, so, it is hoped the publication of this list may bring out that fact. The synonyms are added for the convenience of the readers.

1. *Mermiria bivittata*, Serv.
 Opsomala bivittata, Serv. Hist. Orth. 589.
 Opomala bivittata, Thomas, Syn. Acrid. 64.
 Mermiria belfragii, Stal, Recens. Orth. I. 102.
2. *Truxalis brevicornis*, Linn.
 Gryllus (*Acrida*) *brevicornis*, Linn., Syst. Nat. II. 692.
 Truxalis brevicornis, Fabr. Ent. Syst. II. 27.
 f. *viridulus*, Pal. Beauv. Ins. Orth. 86, Pl. 3, fig 4.
 m. *notochlorus*, Pal. Beauv. Ins. Orth. 80, Pl. 3, fig. 3.
 Acridium ensicornu, Deg. Ins. III. 499. Pl. 42, fig. 7.
 Opsomala punctipennis, Thos. Trans. Ill. St. Agl. Soc., V. 447.
 Pyrgomorpha brevicornis, Walk. Cat. Dermap. Salt. III. 500.
 Pyrgomorpha punctipennis, Thos. Syn. Acrid. 68.
3. *Chloealtis viridis*, Scudd.
 Chloealtis viridis, Scudd. Bost. Jour. Nat. Hist., VII. 455.
 Opsomala brevipennis, Thos. Trans. Ill. Agl. Soc., V. 451.
 Chrysochraon viridis, Thos. Syn. Acrid. 71.
 Truxalis angusticornis, Stal, Recens. Orthop. I. 105.
4. *Chloealtis conspersa*. Harr.
 Chloealtis conspersa, Harr. Rep. Ed. 1862, 184
 abortiva, Har. Rep. Ed. 1862, 184.
 Stenobothrus melanopleurus, Scudd. Bost. Jour. Nat. Hist. VII, 456.
 Chrysochraon conspersum, Thos. Syn. Acrid, 76.

5. *Syrbula admirabilis*, Uhl.
 - f. *Stenobothrus admirabilis*, Uhler, Proc. Ent. Soc. Phila., 1864, 553.
 - m (?) *Oxycoryphus montezuma*, Sauss. Rev. et Mag. Zool, 1859.
 - m (?) *Syrbula leucocerca*, Stal, Recens. Orth. I, 102.
6. *Stenobothrus maculipennis*, Scudd.
 - St. maculipennis, Scudd. Bost. Jour. Nat. Hist. VII, 458.
 - St. æqualis, Scudd. Bost. Jour. Nat. Hist. VII. 459.
 - St. propinquans, Scudd. Bost. Jour. Nat. Hist. VII, 461.
7. *Stenobothrus curtipennis*, Harr.
 - Locusta curtipennis, Harr. Cat. Ins. Mass. 56.
 - Chloealtis curtipennis, Harr. Rep. Ed. 1862, 184.
 - Stenobothrus lonigpennis, Scudd. Bost. Jour. Nat. Hist. VII, 457.
8. *Stethoeophyma lineata*, Scudd.
 - Arcyptera lineata, Scudd. Bost. Jour. Nat. Hist. VII, 462.
9. *Tragocephala viridifasciata*, Deg.
 1. *Var. virginiana*.
 - Acridium viridifasciatum, DeGeer. Mem. II., 498.
 - Gryllus (Locusta) viridifasciatus, Goeze, Beytr I., 115.
 - Gryllus virginianus, Fabr. Syst. Ent., 291.
 - Gryllus (Locusta) virginianus, Goeze, Ent. Beytr, I, 106.
 - chrysomelus, Gmel, Lynn, Syst. Nat. IV, 2086.
 - Acridium virginianum, Oliv. Encyc. Meth. Ins., vi. 225.
 - marginatum, Oliv. Encyc., Meth. Ins., vi. 229.
 - hemipterum, Pal. Beauv. Ins., 145.
 - Acridium (Oedipoda) virginianum, DeHaan, Bijdr, Kenn. Orth., 143.
 - Locusta viridifasciata, Harr., Cat. Ins., 56.
 - Locusta (Tragocephala) viridifasciata, Harr. Rep., Ed. 1862, 182.
 - Gomphocerus viridifasciatus, Uhler, in Harr. Rep., Ed. 1862, 181.
 - Oedipoda virginiana, Burm. Handb. Ent., I. 645.
 - Tragocephala viridifasciata, Scudd. Bost. Jour. Nat. Hist., vii, 461.
 2. *Var. radiata*.
 - Locusta radiata, Harr. Cat. 56.
 - Tragocephala radiata, Harr. Rep., Ed. 1862, 183.
 - Gomphocerus radiatus, Uhl. Harr. Rep., Ed. 1862, 181.
 3. *Var. infuscata*.
 - Locusta (Tragocephala) infuscata, Harr. Rep. Ed. 1862, 181
 - Gomphocerus infuscatus, Uhl. Harr. Rep., Ed. 1862, 181.
 - Tragocephala infuscata, Scudd. Bost. Jour. Nat. Hist., vii. 466.
10. *Tragocephala sordida*, Burm.
 - Oedipoda sordida, Burm. Handb. Ent. II. 643.
 - Acridium (Oedipoda) sordidum, DeHaan, Bijdr. Kenn. Orth. 143.
 - Locusta nebulosa, Erichs. Archiv. f. Nat. II. 230.
 - Locusta periscelidis, Harr. Cat. 56.
 - Tragocephala sordida, Stal, Recens. Orth. I. 119.

Encoptolophus sordidus, Scudd. Proc. Bost. Soc. Nat. Hist. XVII.

11. *Tomonotus sulphureus*, Fabr.

1. *Var. sulphureus*.

Gryllus sulphureus, Fabr. Syst. Ent. II. 59.

Gryllus (Locusta) sulphureus, Gmel. Linn. Syst. Nat. I. 2079.

Acridium sulphureum, Oliv. Encyc. Meth. Ins. VI. 227.

Oedipoda sulphurea, Burm. Hanadb. Ent. II. 643.

Locusta sulphurea, Harr. Rep. Ed. 1892, 177.

Tomonotus sulphureus, Sauss., Rev. et Mag. Zool. XIII. 321.

Arphia sulphurea, Stal, Recens. Orth. I. 119.

2. *Var. xanthopterus*.

Oedipoda xanthoptera, Burm. Hand. Ent. II. 643.

Acridium xanthopteron, De Haan, Bijdr. Kenn. Orth. 143.

Tomonotus xanthopterus, Thos. Syn. Acrid. 105.

Arphia xanthoptera, Scudd. Geol. Surv. N. H. I. 377.

3. *Var. carinatus*.

Oedipoda carinata, Scudd. Trans. Am. Ent. Soc. II. 306

Tomonotus carinatus, Thos. Syn. Acrid. 106.

12. *Tomonotus nietanus*, Sauss.

Oedipoda tenebrosa, Scudd. Hayden's Geol. Surv. Neb. 251.

Tomonotus pseudo-nietanus, Thos. Proc. Acad. Nat. Sci. Phila. 1870-80.

tenebrosus, Thos. Syn. Acrid. 107.

Arphia sanguinaria, Stal, Recen. Orth. I. 119.

Tomonotus nietanus, Sauss. Mag. de Zool. 1859.

13. *Oedipoda aequalis*, Say.

Gryllus aequalis, Say. Jour. Acad. Nat. Sci. Phila. iv. 307.

Locusta aequalis, Harr. Rep. 583.

Oedipoda aequalis, Erichs. Archiv. f. Nat. ix. 230.

Trimerotropis aequalis, Scudd. Geol. Surv. N. Hamp. i. 377.

Spharangemon aequale, Scudd. Proc. Bost. Soc. Nat. Hist. XVII.

14. *Oedipoda collaris*, Scudd.

Oedipoda collaris, Scudd. Geol. Surv. Neb. 250.

Spharangemon collare, Scudd. Proc. Bost. Soc. Nat. Hist. XVII.

15. *Oedipoda carolina*, Linn.

Gryllus (Locusta) carolinus, Linn. Syst. Nat. I. 701.

Gryllus carolinus, Fabr. Ent. Syst. II. 58.

Acridium carolinum, Deg. Inst. III. 491

Locusta carolina, Harr. Rep. 176.

caroliniana, Catsb. Nat. Hist. Car. II. 89.

Oedipoda carolina, Burm. Handb. Ent. II. 643.

Acridium carolinianum, Pal. Beauv. Ins. 147.

16. *Oedipoda belfragii*, Stal.

Oedipoda belfragii, Stal, Recens. Orth. I. 129.

17. *Trimerotropis verruculata*, Kirb.
 Locusta verruculata, Kirby, Faun. Bor. Am. Ins. 250.
 latipennis, Harr. Rep. 179.
 Acridium verruculatum, DeHaan, Bijdr. Kenn. Orth. 250.
 Oedipoda latipennis, Uhler, Harr. Rep., 178.
 Trimerotropis verruculata, Scudd. Geol. Surv. N. Hamp. I, 377.
18. *Trimerotropis maratima*, Harr.
 Locusta maratima, Harr. Rep. 178.
 Oedipoda maratima, Uhler, Harr. Rep. 178.
 Trimerotropis maratima, Stal, Recens. Orth. I, 135.
19. *Mestobregma cincta*, Thos.
 Oedipoda cincta, Thos. Proe. Acad. Nat. Sci. Phila. 1870, 80.
20. *Hippiscus neglectus*, Thos.
 Oedipoda neglecta, Thos. Proc. Acad. Nat. Sci. Phila. 1870, 84.
 Hippiscus neglectus, Scudd. Bull. Geol. Surv. Terr. Vol. II, No. 3, 264.
21. *Hippiscus corallipes*, Hald. var. *rugosus*.
 Oedipoda rugosa, Scudd. Bost. Jour. Nat. Hist. VII, 469.
 Hippiscus rugosus, Scudd. Geol. Surv., N. Hamp. I, 377.
22. *Hippiscus discoideus*, Serv.
 Oedipoda discoidea, Serv. Hist. Orth., 724.
 Acridium tuberculatum, Pal. Beauv. Ins. 145.
 Hippiscus discoideus, Stal, Recens. Orth. I. 121.
23. *Hippiscus phœnicopterus*, Germ.
 Locusta apiculata, Harr. Cat. 56.
 corallina, Harr. Rep. 176.
 Acridium phœnicopterus, DeHaan, Bijdr. Kenn. Orth. 144.
 Oedipoda phœnicoptera, Germ. Burm. Handb. Ent. II. 643.
 corallina, Erichs. Archiv, f. Nat. ix 229.
 Hippiscus phœnicopterus, Scudd. Geol. Surv. N. Hamp. I. 377.
24. *Camnula pellucida*, Scudd.
 Oedipoda pellucida, Scudd. Bost. Jour. Nat. Hist. atrox, Scudd. Geol. Surv. Neb. 253.
 Camnula tricarinata, Stal, Recens. Orth. I. 120.
 pellucida, Scudd. Geol. Surv. N. Hamp. I. 378.
25. *Pezotettix unicolor*, Thos.
 Pezotettix unicolor, Thos. Synop. Acrid. 151.
26. *Pezotettix minutipennis*, Thos.
 Pez. minutipennis, Thos. Bull. I. Ill. Museum 66.
27. *Pezotettix scudderi*, Uhl.
 Pez. scudderi, Uhler, Prac. Ent. Soc., Phila. II. 555.
28. *Pezotettix viola*, Thos.
 Pez. viola, Thos. Bull. I. Ill. Museum 68.
29. *Caloptenus femur-rubrum*, Deg.
 Acrydium femur-rubrum, Deg. Ins. III. 498.
 femorale, Oliv. Encyc. Meth. Ins. VI. 228.
 Gryllus (Locusta) erythropterus, Gmel. Linn. Syst. Nat.

- I. 2,086.
Caloptenus femur-rubrum, Burm. Handb. Ent. II. 638.
Melanoplus femur-rubrum, Stal, Recens. Orth. I. 79.
30. *Caloptenus atlantis*, Riley.
 Cal. atlantis, Riley, 1st Rep. 1875, 169.
31. *Caloptenus spretus*, Thos.
 Cal. spretus, Thos. Synop. Acrid. 164.
32. *Caloptenus bivittatus*, Say.
Gryllus bivittatus, Say, Jour. Acad. Nat. Sci., Phila. IV. 308.
Locusta leucostoma, Kirby, Faun. Bor. Am. Ins. 250.
Acridium sanguinipes, Harr. Hitch. Rep. 583.
flavovittatum, Harr. Rep. 173.
bivittatum, Thos. Trans. Ill. Agl. Soc. V. 449.
Caloptenus femoratus, Burm. Handb. Ent. II. 368.
bivittatus, Uhl. Say's Ent. ed. Lec. II. 238.
33. *Caloptenus differentialis*, Thos.
Acridium differentiale, Thos. Trans. Ill. Agl. Soc., V. 450.
Cyrtacanthacris differentialis, Walk. Cat. Dermap. Salt. IV. 610.
Caloptenus differentialis, Thos. Proc. Acad. Nat. Sci., Phila., 1871.
34. *Acridium rubiginosum*, Scudd.
Acrid. rubiginosum, Scudd. Bost. Jour. Nat. Hist. VII. 467.
damnificum, Sauss. Rev. et Mag. Zool. XIII., 164.
35. *Acridium emarginatum*, Scudd.
Acrid. emarginatum, Scudd. Geol. Surv. Neb. 240.
36. *Acridium americanum*, Drury.
Gryllus americanus, Drury, Illust. II., 3, 128.
succinctus, Linn. Syst. Nat. 11th ed. I. 699.
serialis, Thunb. Mem. Acad. St. Pet. V. 241.
Locusta tartarica, West. Dru. Ill. I. 121.
Acridium americanum, Scudd. Bost. Jour. Nat. Hist. VII. 466.
rusticum, Glov. Ill. pl. i. fig. 15.
Cyrtacanthacris americana, Walk. Cat. Deramp. Salt. III. 550.
Schistocerca americana, Stal, Recens. Orth. I. 66.
- Var. ambiguum*, Thos.
Acridium ambiguum, Thos. Synop. Acrid. 173.
37. *Tettix ornata*, Say.
Acrydium ornatum, Say, Am. Ent. I. 10.
38. *Tettigidea lateralis*, Say.
Acrydium laterale, Say, Am. Ent. pl. v. figs. 2 and 3.
39. *Tettigidea polymorpha*, Burm.
Tetrix polymorpha, Burm. Handb. Ent. II. 659.

DESCRIPTION OF SPECIES.

1. MERMIRIA BIVITTATA. Serv.

Female.—Face tricarinate, very oblique, carinæ prominent; the median sulcate but scarcely double. Vertex, rather short, round, and slightly margined in front; scarcely as long as broad. Promotum slightly contracted in the middle, lateral carinæ indistinct, median distinct. Prosternal point short, tuberculiform. Elytra and wings passing the abdomen.

Color.—Yellowish-green; often tinged with reddish-brown. Behind each eye starts a dark brown or black stripe, which reaches the posterior border of the pronotum and extends upon the elytra. Elytra opaque from the base to the middle, transparent beyond, tinged with brown; the first half of the internal margin has a longitudinal greenish stripe, and a similar stripe near the anterior margin, but not reaching quite half the length of the elytra. Wings transparent; nerves and nervules of the apical half dark. Legs greenish; the femora striped above with reddish-brown.

Male.—Similar, but smaller.

Dimensions.—Length to tip of elytra, 1.50 to 1.65 inches; posterior femora 1 inch; posterior tibiæ 0.95 inch; elytra 1.08 inches.

I am not certain that this species has been observed in Illinois, but think I have seen one specimen taken in the state.

2. TRUXALIS BREVICORNIS. Linn.

Female.—Pale green, somewhat dotted over with brown; sometimes the back is ash-brown and sometimes this color prevails throughout. Top of the head slightly ascending; vertex projecting, horizontal,

rounded in front; no lateral foveolæ; the advance in front of the eyes not quite equal to the length of the eye; a very slight median carina. Face quite oblique; seen from the side curves slightly inward below the vertex; regularly widening from the apex of the eyes downward, rounded transversely; the carinæ generally slight and obtuse, but sometimes slightly prominent; frontal costa slightly prominent between the antennæ, but not prominent below, gradually expanding below, more or less sulcate; lateral carinæ more or less distinct, nearly straight, reaching the corners of the face. Antennæ about as long as the head and pronotum, enlarged and flattened at the base, acuminate at the apex, triquetrous. Eyes oblong-ovate, oblique, and placed well forward near the antennæ. Pronotum a little longer than the head, truncate in front; hind border very obtusely angled; sides flat, perpendicular, straight and very nearly or quite parallel; tricarinate, the three carinæ about equal, distinct but not prominent, straight, parallel; posterior transverse incision situated a little behind the middle, bends forward in the middle, and cuts the median carina; the two anterior incisions sub-obsolete; the posterior margin of the side somewhat regularly though slightly curved inward, the lower posterior angle being sub-acute. Elytra and wings pass the posterior femora, and are about as long as the abdomen; the former are narrow and obliquely truncate at the apex. Abdomen sub-cylindrical, elongate, slightly enlarged at the apex; the upper valves of the ovipositor unusually long and exserted. Posterior femora shorter than the abdomen, not reaching the extremity of the elytra, slender, being but slightly enlarged at the base.

General color as given above. Antennæ and generally the front legs in all the varieties pale reddish brown; the lateral carinæ brown; the eyes and a spot below them brown. The elytra with a few fuscous or dark dots along the disk; wings pellucid or slightly tinged with yellowish at the base; nerves of the anterior portion roseate in the green variety; somewhat dusky in the brown specimens. Length, 1.50 to 1.75; elytra, 1.10 to 1.25 inches.

Male.—Similar to female, except that it is very much smaller, rather more compressed on the sides, head slightly more ascending, face slightly more oblique, vertex rather more acute. The back is usually green; the sides in all cases so far as I have observed, entirely and uniformly fuscous, without spots or stripes. Length, 1.00 to 1.15; elytra, .80 to .90 inches.

This species, so far as I am aware, has been found only at one point in this State, and that a very limited area near Murphysboro, Jackson county.

It is fond of damp, swampy places covered with a rich growth of grass, not too heavily swarded. As it is found south as far as the West Indies, it is probable Jackson county is the extreme northern limit of its district.

3. CHLOEALTIS VIRIDIS. Scudd.

Vertex broad, slightly expanding in front of the eyes, beyond which the sides converge so as to form a right angle, rounded at the apex; the edge more or less upturned, so as to form a lunar or semicircular depression behind it; frontal costa scarcely sulcate above the ocellus in the female, sub-sulcate in the male. Pronotum with the sides compressed, vertical, parallel; the three carinae distinct, equal, parallel; the transverse impressions indistinct, the posterior much behind the middle. Elytra ovate-lanceolate, about half as long as the abdomen in the female, three-fourths its length in the male. Sub-anal plate of the male turned up, somewhat pointed, entire at the tip. Posterior femora in the female about as long as the abdomen.

Color.—Of the male; whole of the upper surface green; sides a dirty brown, sometimes with a black streak extending back from the eye. Front of the head yellowish-brown or yellow. Front and middle legs greenish, tinged with reddish-brown; posterior femora greenish-yellow; tibiae fuscous, spines tipped with black. Female varies in color from almost entirely pale-green to dark-brown, with a dark stripe running back from each eye along the upper margin of the sides of the pronotum; disk of the elytra marked with two or three fuscous dots; hind tibiae reddish-brown.

Dimensions.—*f.* Length, 1 inch; pronotum, 0.21 inch; hind femora, 0.6 inch; elytra, 0.42 inch. *m.*—Length, 0.6 inch; pronotum, 0.14 inch; hind femora, 0.4 inch; elytra, 0.3 inch.

This and the following species are placed in the genus *Chrysochraon* in my "Synopsis of the Acrididae." Found throughout the State, and, although not abundant, is quite common.

4. CHLOEALTIS CONSPERSA. Harr.

Vertex broad, expanded to a blunt point on each side in front of the eyes, from which the sides converge so as to form little less than a right angle, blunt at the tip; edges a little upturned; a very slight median carina; frontal costa with a shallow sulcus two-thirds its length. Eyes not large or prominent, slightly elongated. Antennae slender, slightly flattened, reaching to the middle of the elytra in the male. Pronotum with the sides nearly straight, or slightly converging in the middle; median carina sharp, rather more distinct than the lateral; front and posterior margins straight. Elytra in the male, reaching nearly to the tip of the abdomen, obovate-lanceolate, suddenly swollen on the costal border about two-thirds of the way from the apex to the base, internal border full and curved evenly from the base to the tip; in the female the elytra reach about the middle of the abdomen.

Color.—Male: head above, dorsum of the pronotum, sides of the meso and meta-thorax, the face and sides of the head below the eyes, and the elytra a light lilac-brown, varying in intensity in different specimens; sides of the head behind the eyes shaded with black. Antennæ dark-brown, darkest at the tips. Sides of the pronotum and of the first two or three abdominal segments shining black. Abdomen light-brown above, banded with black; light yellow beneath; sides, except on the first two or three segments, dark reddish-brown. Fore and middle legs brown; hind femora light yellowish-brown above, with one or two broad dark brown bands, light-yellow below, apex black; hind tibiæ yellowish-red, black at the base and tips.

The female differs from the male in being darker, and in wanting most of the black on the sides of the pronotum. Head, dorsum of the pronotum, and elytra frequently mottled or even blotched with dark-brown; sides of the pronotum like the dorsum, except a small patch of black on the upper posterior angle.

Dimensions.—*f*—Length 0.8 to 0.9 inch; elytra 0.30 to 0.37 inch; hind femora 0.50 to 0.55 inch. *m*—Length 0.65 to 0.70 inch; elytra 0.35 to 0.40 inch; hind femora 0.40 to 0.45 inch.

Found throughout the State, but I believe is nowhere common.

5. SYRBULA ADMIRABILIS. Uhl.

Female.—Large size; lateral foveolæ of the vertex wanting; elytra and wings as long as the abdomen; general color green, striped with fuscous and carneous.

Vertex prominent, not expanding in front of the eyes; margins slightly elevated, obtuse; no middle foveola; but a slight depression each side within the margins, which are separated by a dim median carina, that extends back across the occiput. Face straight, very oblique, quadricarinate; the carinæ straight, diverging below and reaching the clypeus. Eyes, pyriform, oblique, pointed at the apex. Antennæ somewhat flattened and often slightly enlarged near the base. Pronotum about as long as the head, contracted slightly in the middle; the three carinæ distinct, cut a little behind the middle by a cross incision, the lateral curving inward slightly on the anterior lobe. Elytra, wings and posterior femora passing the abdomen.

Color.—Face and sides of the head green; antennæ and palpi carneous; eyes brownish; a pale reddish-brown or carneous stripe reaches from the vertex to the hind border of the pronotum, bordered each side by a dark fuscous stripe. Sides of the pronotum green, with a fuscous stripe along the middle; the posterior lobe punctured on the sides. Middle field and upper margin of the elytra green; the green of the middle serrated above by the notches of the fuscous portion, which occupies the upper (posterior) half; lower (anterior) margin fuscous.

Wings transparent, tinged with greenish-yellow at the base; nerves dusky; apex slightly fuliginous. The upper half of the disk of the posterior femora green, lower half yellowish or reddish; posterior tibiae pale at base, apical portion dusky; spines yellowish tipped with black. Alcohol changes the green and caraneous to a pale dull yellow; otherwise the markings remain unchanged, except that they are somewhat faded.

Male.—Head above, slightly ascending to the vertex, giving to the whole head an upward bend; front conical; face much sloped. Vertex without lateral foveolae; margins slightly raised, with two inclosed depressions separated by a slight median ridge, which runs forward to the fastigium. Frontal costa quite broad and flat, very slightly sulcate below the ocellus, margins angled; lateral carinae distinct; the face is sloped backward toward the breast so much that the angle it forms with the upper surface is less than forty-five degrees. The pronotum is short, scarcely exceeding the length of the head; sides compressed, nearly parallel, expanding very slightly posteriorly; tricarinate; the carinae about equal, being simply raised lines, very nearly parallel, severed once by the minute posterior sulcus a little behind the middle; front margin sub-truncate; posterior margin sub-truncate, rounded; the lateral margins descending almost straight to the lower angle. Elytra and wings passing the abdomen slightly, narrow. The sub-anal plate is prolonged in the form of a short, blunt ovipositor. Antennae somewhat clavate, the club commencing with the twelfth or thirteenth joint. Eyes very oblique, elongate-ovate, pointed above.

Color.—Yellowish-brown in stripes. Face yellowish, the corners of the mouth piceous. A narrow yellow stripe runs back from each eye to the pronotum, bordered on each side with light brown, the upper fading on the upper edge to yellowish; a pale brownish stripe along the middle of the occiput. Antennae pale at base; club black on one side and pale on the other. Carinae of the pronotum yellow, the inter-spaces of the disk brownish; the posterior lobe on the sides marked with black punctures and minute, angular, yellow raised lines; some yellow stripes on the sides. Elytra transparent, somewhat fuliginous, with a dusky spot or two on the disk near the base.

Wings transparent and almost uniformly fuliginous, though not clouded. Posterior femora yellowish, with two or three oblique dusky bands on the upper portion of the exterior face; apex black.

Posterior tibiae with knee black; a broad white ring just below the knee; rest dusky, but the upper (posterior) side shows minute abbreviated alternate rings of black and white; the base of the spines white, tips black. Tarsi a dusky yellow.

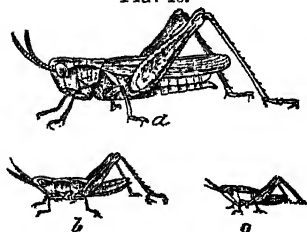
Dimensions.—*f*—Length, 1.3 inches; pronotum, 0.23 inch; elytra, 1 inch; posterior femora, 0.86 inch; posterior tibiae, 0.77 inch. *m*—Length, 1 inch; elytra, 0.75 inch; posterior femora, 0.65 inch; posterior tibiae, 0.62 inch; pronotum, 0.13 inch.

This fine species is found throughout the state, but is not very common. I am not *absolutely* certain that the insect described as the male, is the male of this species, as I have not taken them *in copulo*, but after studying the species for some ten or twelve years feel justified from facts observed in assuming that it is. I find the two in the same situations at the same time and nothing to answer for the male of the one and the female of the other, if these be not the two sexes of the same species.

I am now quite well satisfied that Saussure's *Oxyoryphus montezuma* and Stal's *Syrbula leucocerca* are the same species and the male of this species. If I am correct in this conclusion, then the true name of the species will be *Syrbula montezuma* Sauss., as his species was described in 1861, in the *Revue et Magasin de Zoologie*. Uhler's description of *St. admirabilis* was first published in the proceedings of the Entomological Society of Philadelphia in 1864; and Stal's description of *S. leucocerca* in his *Recensio Orthopterorum* Pt. I in 1873. As Stal's genus *Syrbula* appears to have been founded on the males of the two supposed species, *Ox. montezuma* and *S. leucocerca*, it will need some modification so as to include the female. As neither the male or female appears to belong properly to *Stenobothrus*, but both approach nearer to *Syrbula* than any other genus, the male evidently belonging there, I have included the species in the latter genus. The antennæ of the female instead of being slightly enlarged at the tip, as in the male and as Stal's generic description requires, is really slightly enlarged and flattened at the base, and narrowed toward the apex.

6. STENOBOTHRUS MACULIPENNIS. Scudd.

FIG. 16.



Stenobothrus maculipennis.
a. Perfect insect. b. Pupa.
c. Larva.

Vertex with the margins raised, the sides very slightly expanded in front of the eyes; apex blunt; lateral foveolæ, when present very shallow and broader toward the eyes than at the apex, but these are often obliterated by the absence of their lower margin. Face oblique, nearly straight, frontal costa somewhat prominent, sides parallel, or nearly so, until near the clypeus, where it expands and fades, sometimes sulcate, at others scarcely sulcate; lateral carinæ distinct. Pronotum slightly constricted about

the middle; the three carinæ rather slight, the lateral converging at the middle, nearly parallel on front lobe, diverging on the posterior lobe; hind border obtusely rounded. Elytra and wings passing the abdomen.

Color.—Head and disk of the pronotum green, (in some individuals brown); a reddish-brown broad band behind the eyes reaches to the hind edge of the pronotum, limited above by the lateral carinæ, which are white, but partially crossing these near the hind border; sides of the pronotum below the band brownish or dull yellowish. Elytra green, with a median band of equidistant, square black spots along its whole extent, besides a few irregularly-scattered smaller black spots; sometimes the inner halves of the area entirely of a rust-red color. Legs yellowish-brown; the hind femora sometimes streaked with red

or brown; hind tibiæ plumbeous. Antennæ reddish at base; rest brown or fuscous.

Dimensions.—*f*—Length, 0.75 inch; antennæ 0.26 to 0.35 inch; hind femora, 0.45 inch; elytra, 0.7 inch. *m*—Length, 0.45 to 0.55 inch.

Var. æqualis.—Very similar in appearance to *St. maculipennis* but smaller, with elytra extending only to the tip of the abdomen. Vertex broad and blunt, the sides slightly swollen at the anterior border of the eyes; apex blunt, and all the angles rounded; the edge slightly but not sharply upturned; foveolæ shallow, short, and nearly equiangular. Lateral carinæ of the pronotum curved inward a little in the middle, not so prominent as the sharp median carina; hind border slightly angular, but nearly straight. Elytra and wings just reaching the extremity of the abdomen.

Color.—Much the same as *St. maculipennis*. The lateral carinæ of the pronotum are yellow, and the stripe extends to the eye; the stripe behind the eye is quite narrow, and the sides below it green, like the parts above, and the triangular dash of black upon the top of the pronotum at the hinder angles is much narrower than there, on account of the lesser divergence of the lateral carinæ. The median stripe of the elytra containing the square black dots is yellowish-brown as in *St. maculipennis* and the extremity is extremely pellucid.

Dimensions.—*m*—Length 0.45 inch; antennæ 0.24 inch; hind femora 0.3 inch; elytra 0.34 inch. *f*—Length 0.66 inch; antennæ 0.2 inch; hind femora 0.38 inch; elytra 0.46 inch.

Var. propinquans.—Very similar to *St. bilineatus*, but of larger size and has proportionally longer wings. It is also closely allied to *St. maculipennis*. Vertex broad, expanding but slightly at the anterior border of the eyes; the angle rounded, the apex blunt; edges scarcely, if at all, raised; foveolæ as in *St. maculipennis* but shallower. Lateral carinæ of the pronotum somewhat convergent in the middle, of equal prominence and sharpness as the median; hind border of the pronotum somewhat rounded. Elytra and wings a little longer than the abdomen.

Color.—Brown. A dark stripe behind the eye quite broad; lateral carinæ yellowish; a faint, curved dark stripe from the inner border of the eyes to the lateral carinæ. Antennæ yellowish-brown. Elytra brownish at the base, transparent at the apex, with a middle line of brown spots extending two-thirds of the distance toward the tip. Legs yellowish brown; hind tibiæ plumbeous, with a broad pale annulation at the base.

Dimensions.—*m*—Length 0.6 inch; antennæ 0.26 inch; hind femora 0.38 inch; elytra 0.55 inch. *f*—Length 0.75 inch; antennæ 0.23 inch; hind femora 0.48 inch; elytra 0.68 inch.

This species is readily distinguished from other Illinois species by the oblique face, filiform antennæ, spots on the elytra and small size.

It and probably the varieties are found in the northern and central portions of the State; how far south the limits of its district extend has not been positively ascertained.

7. STENOBOTHRUS CURTIPENNIS. Harr.

Vertex expanding on each side immediately in front of the eyes, into an angular point a little more obtuse than a right-angle; margins raised, obtuse, converging in front to a right-angle; apex blunt; lateral foveolæ distinct, linear. Face oblique, that of the male more so than that of the female, slightly arcuate; frontal costa very prominent, sides nearly parallel, flat or sub-convex above the ocellus, rest sulcate; lateral carinae curving regularly from the inner margin of the eyes to the corners of the face. Antennae passing the thorax, especially in the male; thick, somewhat flattened, and slightly enlarged toward the apex; joints more contracted in the male. Sides of the pronotum somewhat compressed, especially on the lower posterior portion, giving to this part the appearance of being slightly indented and contracted, nearly parallel, but slightly widest in front; the three carinae distinct, equal, the lateral approximating in advance of the middle, about one-third the distance from the anterior border; slightly divergent from this point to the front border, more divergent posteriorly; the three are cut by the posterior incision a little behind the middle; posterior extremity obtusely rounded. Elytra and wings narrow, sometimes shorter than, and sometimes passing the abdomen. Valves of the ovipositor rather longer and more exerted than usual.

Color.—Head and thorax brown; a broad, shining black stripe on the side, behind the eye, extending to the posterior extremity of the pronotum along the upper margin, a portion of it extending above the lateral carina at the hind extremity; sometimes there is a longitudinal dark streak on the top of the head. Antennae yellowish-brown at the base, the rest brown or black. Elytra uniform pale reddish-brown; wings pellucid. Hind femora pale-brown or yellowish, except at the apex, which is black; hind tibiae black at the knee, rest pale red or yellow. Under side dull-yellow.

Dimensions.—*f*—Length 0.75 to 0.84 inch, antennae 0.27 to 0.30 inch; elytra 0.36 to 0.66 inch; hind femora 0.47 to 0.50 inch. *m*—Length 0.55 to 0.65 inch; antennae 0.35 to 0.37 inch; elytra 0.40 to 0.60 inch; hind femora 0.42 to 0.44 inch.

8. STETHEOPHYMA LINEATA. Scudd.

Vertex of the head broad, slightly swollen at the front border of the eyes; apex docked; edge raised to a ridge, with a median ridge extending over the whole top of the head; foveolæ small, shallow, triangular. Pronotum rugose; lateral carinae parallel on the anterior half, somewhat divergent behind, not so high as the median, and much broken. Elytra long and slender, with no swollen curves; the costal border not so prominent near the base as is usual in this genus.

Color.—Dark-brown. A narrow, curved, dark line, extends from the upper border of the eyes to the lateral carinæ of the pronotum, and is the inner limit of a broad, brownish-yellow band, which extends from the eye to the lateral carinæ, whence it continues backward along the carinæ; below this, upon the upper border of the side extends another broad, black band from the eye to the hind edge of the pronotum; the median carina is black. The elytra have the costal edge dark, beneath which is a yellow streak extending from the base to the costal border at about two-thirds the distance to the apex; beneath this is a band, narrow and black at base, broadening till it occupies the whole width of the elytra, becoming brown toward the tip, while the inner border is yellowish-brown. The wings dusky, the internal half with a yellowish tinge. Legs dark-brown; hind femora black on the outer and inner surfaces, reddish-brown above, coral-red below, with a white spot near the apex; tip black. Hind tibiæ yellow, with black spines; the base and tips black, and a dusky annulation below the knee.

Dimensions.—*m*.—Length, 1 inch. *f*.—Length, 1.4 inch; elytra 1.12 inch; hind femora 0.72 inch.

9. TRAGOCEPHALA VIRIDIFASCIATA. Han.

FIG. 17.



Tragocephala viridifasciata.
a. Pupa. b. Perfect insect.

Var. virginiana.—Vertex triangular, acuminate in front, blunt at the tip, not deflexed; margins slightly elevated though sometimes obliterated in the female, to which this description chiefly applies; lateral foveolæ very shallow, flat or obsolete, triangular, the apex forward. Frontal costa prominent; sides nearly parallel; solid and slightly arcuate above the ocellus, punctured; sulcate below in the males, and dimly sulcate in the females; the margins obtuse; lateral carinae slightly prominent, curving outward. Pronotum with the median carina prominent, continuous, and in the female sometimes slightly arched; a dim transverse incision in front of the middle is visible in some specimens; lateral carinæ obliterated in front, somewhat apparent on the posterior lobe; front margin extending on the occiput in an obtuse angle; posterior extremity acute-angled. Elytra and wings pass the abdomen, former obliquely sub-truncate at the apex. Upper carina of the poste-

rior femora somewhat elevated near the base; posterior tibiæ deeply channeled exteriorly. Antennæ short, robust; enlarged slightly and somewhat flattened at the apex. Sub-anal plate of the male tumid, ending in a blunt point, entire, hairy; cerci prominent, somewhat flattened, longer than the triangular supra-anal plate.

Color.—Head, thorax, exterior face of the posterior femora, and a broad stripe along the lower margin of the elytra, grass-green or yellowish-green. Parts of the mouth, antennæ, entire under surface and the four anterior legs usually a distinct and shining reddish brown. The upper or posterior area of the elytra ash-brown, a stripe of the same color along the lower or costal margin; the green of the elytra suddenly decreases a little behind the middle, the apical third being chiefly brownish; the relative proportion of these stripes vary considerably in different individuals. Wings transparent yellow at the base; the apical two-thirds fuliginous or clouded; paler at the apex. Posterior tibiæ with a white ring near the knee, rest pale reddish or blue; tarsi reddish.

Var radiata.—Head and thorax ash-brown, streaked and spotted with black and dark-brown. Elytra brown, where in *virginiana* they are green; anterior or costal margin near the base pale. Exterior face of the posterior femora cinereous; posterior tibiæ dark-blue below the pale ring. Males much smaller and darker.

Var. infuscata.—Male. Head and thorax narrow and compressed at the sides. Vertex strongly advanced in front of the eyes, acute-angled; margins elevated, sharp; lateral foveolæ almost obsolete. Frontal costa very prominent, narrow; the portion above the ocellus arcuate, solid; slightly narrowed at the ocellus and sulcate. Joints of the antennæ much shortened and sub-distinct. Median carina of the pronotum somewhat prominent, sharp, straight on top and entire; lateral carinæ sub-acute but not elevated.

Both sexes dusky brown; elytra faintly spotted with brown; wings as in *virginiana* except that there is often a more distinct cloud near the outer border, but this is also occasionally seen in the former. Posterior femora pale, with two large black spots on the inside; posterior tibiæ brown, with darker spines. This is distinctly smaller than either of the other varieties, and the notes of the male much sharper.

I have some reasons for believing that the males of this species are generally of this variety, at least so far as my observations have extended, I find the females of the other varieties very largely in excess of the males, and precisely the reverse in reference to this variety.

Dimensions.—Length of female 1.0 to 1.3 inches; male from .6 to 1.0 inch.

This is one of our most common species throughout the State, although never appearing in such numbers as some species of *Caloptenus*. The larvæ and pupæ and even the perfect insects are occasionally observed during warm days in winter. It appears early in the spring and continues throughout the summer. The males, especially of the variety *infuscata* are easily detected in the warm days of spring and early summer by their sharp clicking notes.

10. TRAGOCEPHALA SORDIDA. Burm.

Form of the head and pronotum much as in *Tomonotus nictarus*. Central foveola of the vertex broad, slightly transverse in the female, triangular and closed in front, median carina sub-distinct; lateral foveolæ shallow, slightly enlarged, elongate-triangular, indistinct in the male; frontal costa prominent, narrow, sulcate, obliterated before reaching the clypeus; face seen from the side arcuate. Median carina of the pronotum prominent, subcristate, severed about the middle and slightly notched, anterior portion in the female arcuate, both parts somewhat arcuate in the male; lateral carinae sub-distinct on the front and posterior lobes; anterior margin slightly angled, and extending slightly upon the occiput; apex right-angled. Elytra and wings passing the abdomen; wings rather narrow. Antennæ short, somewhat flattened, and slightly enlarged at the apex.

General color dusky brown, varied with lighter and darker shades. Head and thorax varied with patches of lighter and darker shades. Elytra fuscous, with two pale fasciae on the middle portion, sometimes only crossing the lower half, at others crossing the entire width. Wings transparent-yellow on the inner half; apical half fuliginous or smoky; front margin dusky. Posterior femora indistinctly banded with yellowish and brown; posterior tibiae dusky-brown, with paler ring near the knee. Antennæ pale at the base, fuscous at the apex.

Female—Length 1.2 to 1.25 inches; male, .9 to 1 inch.

Found throughout the State, but not common.

11. TOMONOTUS SULPHUREUS. Fabr.

Var. sulphureus.—Foveola of the vertex in the female slightly transverse, divided by a median carina, triangular in front, the margins raised and connecting in front, or approaching near to each other in a right-angle; in the male somewhat elongate; the frontal costa prominent, more or less bisulcate above the ocellus, very slightly sulcate below it; face seen from the side decidedly arcuate. Pronotum scarcely constricted in the middle, but expanding slightly and regularly posteriorly; median carina prominent, sub-cristate or cristate, more or less arcuate on top; lateral carinae obsolete; surface somewhat roughened or rugulose; front margin obtuse-angled, slightly advanced upon the occiput; posterior margin right-angled or acute-angled. Elytra and wings passing the abdomen. Antennae slender and filiform.

Of an almost uniform dusky-brown color, varying from ash-brown to very dark brown; elytra rather paler than the pronotum and more or less distinctly spotted with dark brown. Wings a bright sulphur-yellow with a broad dusky or black outer margin, and a very distinct dark ray running inward toward and nearly to the base near the front or costal margin, leaving a narrow yellow stripe along the costal margin; the dark border occupies about one-third of the wing, narrowing as it curves round toward the anal angle, which it does not reach. Posterior femora usually marked with alternating bands of black and white, three of each; posterior tibiae dusky, black or blue-black, with a pale ring near the knee, spines black.

Var. xanthopterus.—This differs from the preceding, as follows: The foveola of the vertex is usually open in front, its margins continuous with the margins of the frontal costa; the median carina of the pronotum is higher and more distinctly arched, the angle of the anterior more distinct, and of the posterior margin more acute. The yellow of the wings is deeper and more inclined to a saffron color; the dark sub-marginal ray is short, not extending more than one-third the distance to the base. It is usually larger than *sulphureus*, the length of the female to the tip of the wings in some cases being fully two inches.

Var. carinatus.—Similar in every respect to *xanthopterus*, except that the wings are more of an orange or reddish-yellow, and the median carina of the pronotum slightly more elevated, and the arch not curving down quite so rapidly at the posterior extremity.

Length of body of this species varies from less than an inch to an inch and a half.

Common throughout the State; *xanthopterus* being apparently the southern type, and *carinatus* the western.

12. TOMONOTUS NIETANUS, Sauss.

Closely allied to *T. sulphureus*. Upper part of the head regularly convex; central foveola of the vertex sub-elongate, with a slender median carina, and a transverse sulcus across the hinder portion, generally truncate and closed in front; upper part of the frontal costa subtricarinate; rest flat, arcuate below as seen from the side. Antennæ slightly flattened and somewhat enlarged toward the tip. Median carina of the pronotum distinct, somewhat prominent but less so than in *sulphureus*, nearly straight on top, cut near the middle by the transverse sulcus, but not notched; anterior margin of the pronotum obtusely rounded, apical angle about a right angle; lateral carinæ sub-distinct; disk of the posterior lobe nearly flat. Elytra and wings pass the abdomen.

Nearly uniform dark fuscous, often ash-color sprinkled over with fuscous dots, males sometimes almost black; face paler, dotted over with black points; mouth whitish or pale; outer joints of the palpi usually whitish or pale; pronotum above, is sometimes paler, of a dull, dirty-yellow, or partially of this color, usually dusky or brown. Elytra almost uniformly mottled with fuscous, the outer half interspersed with paler spots; but the shading varies in depth. Wings with the broad basal portion bright red; a broad black band around the outer margin, with a dark sub-costal ray extending toward the base; the extreme tip transparent more or less, clouded or spotted with fuscous. Posterior femora usually crossed externally by three pale bands; posterior tibiae black at the knee, below which is a pale ring, middle portion varying from bluish green to black. The pale markings are very variable and sometimes entirely absent.

The size of the female varies from 1.5 to 1.8 inches to tip of elytra; of the male from 1.15 to 1.4.

This species has been observed occasionally in the extreme north-western part of the State. As will be seen I have adopted the name *T. niestanus*, of Saussure, instead of *T. tenebrosus*, of Scudder: further study of the species has sufficed to convince me, notwithstanding the statement in my Synopsis, that the two are identical or but varieties of one species. The only character given by Saussure, which leaves any doubt, is the carina in the lateral foveolæ of the vertex: I find occasionally a minute tubercle which appears to represent it, but have so far failed to find a true carina in these.

13. OEDIPODA AEQUALIS. Say.

Vertex of moderate width; foveola very shallow, especially in the female, slightly elongate, and in the male divided by a dim carina; lateral foveolæ almost obsolete; frontal costa sulcate, slightly in the female, more distinctly in the male, reaching nearly or quite to the clypeus. Median carina of the pronotum prominent on the anterior lobes, distinct, but less prominent on the posterior lobe, severed once near the middle, with a notch; front part compressed as usual, but less wrinkled than many other species; posterior lobe nearly flat on the disk, slightly rugulose, especially in the female; anterior margin slightly angled; posterior extremity about a right angle; lateral carinæ subdistinct, rounded. Elytra and wings passing the abdomen about one-fourth their length. Posterior femora in the female about as long as the abdomen. Antennæ passing the thorax.

Color.—Ash-gray mottled with dusky-brown and white. Face white, mottled with fuscous, or fuscous mottled with white; occiput dark-fuscous. Pronotum dusky-brown, with a dim, pale, broad stripe along the margins of the disk, bending inward at the middle with the lateral

carinæ, sprinkled over with darker dots. Elytra semi-transparent at the tip; with numerous dusky spots, which run together so as to form three transverse bands, the outer one indistinct; apical portion with a few spots. Wings yellow at base; a broad, black, well-defined band occupying the penultimate fourth, curving and decreasing along the posterior margin, reaching the anal angle; apical portion transparent, with dark nerves; apex with one or two dusky spots. Posterior femora with three white bands; posterior tibiæ red with a white ring near the base.

Dimensions.—*f*. Length, 1.12 to 1.25 inches; elytra, 1.10 inches; posterior femora, 0.62 inches; posterior tibiæ, 0.56 inches. *m*.—Length, 0.9 to 1 inch; elytra about equal the body.

So far as my observation and information extend, this species, although found throughout the State, is not very common. It is probable it will be more frequently met with in the northern than in the southern portion.

14. OEDIPODA COLLARIS. Scudd.

Central foveola of the vertex rather broader than long in the female; in the male very slightly elongate; frontal costa flat or convex above the ocellus, with a shallow sulcus below; sides nearly parallel. Median carina of the pronotum prominent, sub-cristate, with a very narrow but deep oblique notch a little in advance of the middle; the top slightly arcuate; lateral carinæ indistinct; sides of the disk ascending. Elytra and wings pass the abdomen about one-third their length.

Color.—Dark reddish-brown. Lower half of the head and a broad band along the posterior edge of the pronotum a clay-yellow, sprinkled with a few fuscous dots. Elytra mottled somewhat uniformly with fuscous blotches and dots, which form three irregular bands, one at the base, which is broad, the middle one narrowest, the apical one sometimes lost in the nearly equal mottling of the tip. Wings pale yellow at base; a broad median black band occupying the middle third, crossing the wing at right angles, decreasing along the posterior margin, around which it curves to the anal angle, throwing out a short, blunt, sub-frontal spur about one-third the distance to the base; apical portion transparent, nerves dusky, and tip clouded or with dusky spots. Hind femora clay-yellow, with two bands and apex fuscous externally and black internally; hind tibiæ reddish. Antennæ fuscous at the apex.

Dimensions.—*f*—Length, 1.25 inches; elytra equal to the body; hind femora, 0.7 inch; hind tibiae, 0.64 inch. *m*—Length, 0.9 to 1 inch.

This species is probably found throughout the State, but is not abundant.

15. OEDIPODA CAROLINA. Linn.

Vertex rather broad; foveola slightly elongate, open in front, with a slight depression at the tip; lateral foveolae minute, shallow; frontal costa sulcate from the ocellus down, slightly contracted immediately below the ocellus. Pronotum contracted and wrinkled in front; last transverse incision distinct, severing and notching the median carina; median carina slightly crested, posterior portion arcuate, anterior portion nearly straight on top; anterior margin somewhat angled at the middle; posterior margin acute angled. Elytra and wings passing the abdomen about one-third their length. Posterior femora shorter than the abdomen.

Color.—Dull ashy-brown, sprinkled with small dusky spots. Spots on the head and thorax minute, sometimes absent; on the elytra a little larger, sometimes aggregated in the middle portions, sometimes almost or quite obsolete. Wings deep black, except the outer margin which is pale greenish-yellow; the apex dusky, with a few spots. Posterior femora mostly black inside; a pale annulation near the apex.

Dimensions.—*f*—Length, 1.5 to 1.5 inches; elytra length of the body; posterior femora about half the length of the body. *m*—length, 1 to 1.25 inches.

This species appears to be found throughout the United States and although never very abundant is yet common during the summer. It is one of our most easily recognized species by its broad black wings which are very conspicuous.

16. OEDIPODA BELFRAGII. Stal.

As I have never met with this species I give here Stal's original description.

Fuscous-brown; the head variegated with cinereous; carina of the head and of the posterior femora, also the posterior margin of the

pronotum sprinkled with black; antennæ annulated with fuscous. Pronotum with the posterior margin acute angled; crest somewhat prominent, profoundly incised between the lobes. Elytra pale, grayish-brown, somewhat translucent toward the apex, where they are also clouded with fuscous. Wings pale yellow at base, with a broad black band across the disk arcuate and narrowed internally; apex transparent, with fuscous veins. Anterior legs subannulated with fuscous; posterior femora with the faciæ and apex black, the inferior margin and exterior side hairy; posterior tibiæ pale yellowish, fuscous at the base; spines tipped with black; hairy.

Female.—Length, 25 millimeters.

I am inclined to think that this is found only in the extreme northern parts of this State and in Michigan. Prof. Peabody informs me that he has found some specimens in the extreme northeast corner of the State which he is inclined to think belong to it.

17. TRIMEROTROPIS VERRUCULATA. Scudd.

Although placed by Mr. Scudder in a different genus it is closely allied to *Oedipoda aequalis*, from which it differs as follows:

Frontal costa of the female rather more distinctly sulcate. Middle carina of the pronotum less distinct on the posterior lobe, and a little less elevated on the anterior lobes, notched and severed in two places, the middle portion the shortest. Elytra and wings appear to be a little longer compared with the length of the body, and the wings more distinctly papilioniform.

Color.—Ash-brown, varied with dusky-brown. Face ash-brown with dusky dots, male darkest. Pronotum a little darker, dusky spots larger than on the face; lateral stripes scarcely distinguishable. The black band of the wings is narrower, the outer and inner borders more irregular, somewhat broken at the first sub-frontal nerve, does not reach the anal angle; the sub-frontal space dusky nearly to the base; apex dusky, with a few small fuscous dots. Base and apex of the posterior tibiae black; middle portion yellowish or plumbeous, generally, with a dusky annulation near the middle.

Dimensions.—*f*.—Length, 1.10 inches; elytra, long as the body; posterior femora, 0.57 inch; posterior tibiæ, 0.5 inch. *m*.—Length, 0.9 to 1 inch.

18. TRIMEROTROPIS MARATIMA. Harr.

Central foveola of the vertex slightly elongate; middle line seldom present in the female, absent in the male; open in front, and the margins continuous with the margins of the frontal costa. Frontal costa sulcate, slightly in the female, distinctly in the male. Median carina of the pronotum simply a raised line on the posterior lobe, slightly more elevated on the middle and anterior lobes, twice severed by transverse incisions; lateral carinae sub-distinct; disk of the posterior lobe flat; apex right-angled. Elytra and wings passing the abdomen; posterior femora about equal to it. Antennae rather longer than usual.

Color.—An ash-gray, tinged with brownish. Face variegated with white, or pruinose. Pronotum sometimes striped on the sides with brown, especially in the male, sometimes brown throughout. Elytra sprinkled with minute, brownish spots, chiefly along the middle and lower half; dorsal margin somewhat pale, unspotted; the dorsal angle tinged with reddish; semi-transparent at the apex. Wings a transparent yellow at base; a narrow, curved, fuscous band across the middle, interrupted near the front margin, where it bends in toward the base a short distance, but does not reach the anal angle; apical portion transparent. Posterior femora with two brown bands on the upper half, inside and outside; with pale yellow ring near the apex; tibiae yellowish.

Dimensions.—*f*—Length 1.25 inches; elytra 1.15 inches; posterior femora 0.63 inch.; posterior tibiae 0.56 inch. *m*—Length, 0.75 to 0.9 inch.

This, so far as I am aware has been discovered only in the extreme northern part of the State. It will not be found in my list of Illinois Orthoptera published in Bulletin No. 1, of the Illinois Museum of Natural History, for the reason that I was not then aware it had been found in the State.

19. MESTOBREGMA CINCTA. Thos.

Female.—The head, seen from the side, shows the crown somewhat elevated, the eyes also standing high. Vertex deflexed, broad, sub-hexagonal; the front portion prolonged; the margins continuous with the sides of the frontal costa. Frontal costa narrow above, gradually expanding below, and sulcate throughout. Pronotum short, the length not exceeding the depth, strongly contracted a little in advance of the middle; the disk somewhat rugose, that of the posterior lobe nearly flat; the median carina slightly elevated on the front lobes,

twice distinctly notched; the middle portion shortest and rounded; the whole of the disk, especially the posterior lobe, more or less covered with small tubercles; lateral carinae obsolete on the anterior lobes, and obtuse and indistinct on the posterior lobe; the posterior angle a little larger than a right-angle. Elytra and wings extend beyond the apex of the abdomen. Posterior femora rather short, not reaching the tip of the abdomen in the female; broad at base, with a sharp, elevated upper carina, which suddenly decreases about one-third the length from the apex; the lower edge generally hairy. Antennae longer than the head and pronotum, filiform.

Color.—Fuscous and pale yellowish-brown, or ash, about equally distributed in stripes and spots, the ash or yellowish brown portions more or less mottled with fuscous dots and points. The dark on the head as follows: two stripes running back from the eyes, one from the upper, the other from the lower corner; the lower portion of the cheeks and the lower margin of the face; and some dots on the margins of the frontal costa. On the pronotum a broad pale stripe runs along each lateral carina, converging in front of the middle; the margins of the posterior portion are pale, joined interiorly by a black stripe; the central space pale; the sides marked with alternate stripes of pale and fuscous. Elytra fuscous at the base, becoming transparent a little beyond the middle, where the netted nervules suddenly cease; a narrow whitish line along the angle; the lower field has two sub-quadrate black spots separated by an elongate whitish spot. Wings transparent; base greenish-yellow; a narrow fuscous band across the middle; apex pellucid, with a few fuscous dots at the tip. Posterior femora ash-colored, with three black spots on the upper margin of the outer face; oase and a band on the inside black. Posterior tibiae with a broad white ring near the base, rest blue; tarsi yellow. Venter and pectus white.

Dimensions.—Length, 1 inch; elytra, 0.92 inch; posterior femora, 0.56 inch; posterior tibiae, 0.48 inch.

I have taken a few specimens of this species in Southern Illinois, but it is by no means common.

20. HIPPISCUS NEGLECTUS. THOS.

Somewhat like the male of *Oe. corallipes*,^{*} Hald. Vertex broad, transverse; the large central foveola is divided by a single or double carina, which runs from the center of the front margin back two-thirds across it; when double, the infolding of the margin, seen from the front, resembles a w; lateral foveolæ shallow, but distinct, frontal costa bi-sulcate above the ocellus, slightly sulcate below. Median carina of the pronotum simply a raised line, distinctly severed by the

third cross incision; lateral carinae sub-distinct; anterior portion rugose on the dorsum, and wrinkled on the sides; disk of the posterior lobe flat, covered with elongate tubercles, sides granulose; anterior margin sub-truncate; apex about a right angle. Elytra and wings extend beyond the abdomen. Antennae slightly passing the thorax.

Color.—(dried after immersion in alcohol)—Pale reddish-brown. Elytra brownish at the base, paler and semi-pellucid toward the apex, with dim, brown, cellular spots scattered somewhat equally over it, fading toward the apex; in some specimens are almost or quite obsolete; in others they are distinct, somewhat fuscous, and partially run together. Wings pale-red at base (orange red when living); crossed by a narrow, somewhat broken, cellular, dark band beyond the middle, which curves round the posterior border, decreasing rapidly and not quite reaching the anal angle; a broad ray of the same running up the front margin to the base. Posterior femora dull yellow, with no distinct bands.

Dimensions.—1.4 to 1.6 inch; elytra 1.25 to 1.30 inch; hind femora 0.70 to 0.75 inch; hind tibiae 0.62 inch.

21. HIPPISCUS CORALLIPES var. RUGOSUS. Scudd.

(*Oelipoda rugosa*, Scudd.)

Head and thorax of unusual depth in the female; head rather broader than the middle of the pronotum. Vertex broad, transverse, with two rather distinct sub-pentagonal foveolæ, the sharper angle directed obliquely backward toward the eye; lateral foveolæ small; frontal costa flat or convex above the ocellus, scarcely sulcate in the lower part; face seen from the side arcuate. Antennae of the female small, not reaching the apex of the pronotum; those of the male flattened and longer. Pronotum rugose with small tubercles and raised lines; less so in the male; median carina distinct, but not elevated, cut rather behind the middle; posterior lobe with the disk flat; lateral carinae sub-distinct on the anterior and posterior lobes. Wings and elytra a little longer than the abdomen. Posterior femora very broad, about as long as the abdomen in the female.

Color.—Yellowish-brown, varied with fuscous. Head and thorax brown, mottled with darker brown; males sometimes reddish-brown, not mottled. Two yellowish bands run from behind the eyes backward and inward, nearly or quite meeting one another a little in advance of the middle of the pronotum, where they diverge and strike the hind margin of the pronotum at the outer angles; two or three dull yellowish spots on the sides. Elytra pale ash-brown, with large fuscous spots, and a narrow pale stripe along the dorsal angle. Disk of the wings yellow, varying in different specimens from pale-transparent to orange-yellow; a moderately broad, dusky band across the

middle, curving round the hind margin nearly to the anal-angle, and extending up the sub-frontal space to the base; apex transparent; veins dusky. Posterior femora crossed externally and internally by three black bands; posterior tibiæ reddish-yellow, with a broad, pale ring near the base.

Dimensions.—*f*. Length, 1.4 to 1.7 inches; elytra, 1.28 inches; posterior femora, 0.90 inch; posterior tibiæ, 0.82 inch. *m*.—Length, 1 to 1.25 inches.

22. HIPPISCUS DISCOIDEUS. Serv.

Female.—Of large size. Vertex broad, the slightly elevated margins suddenly curved outward opposite the eyes; a slight median line, with minute tubercles at the tip. Face slightly curved under; frontal costa prominent, broad, somewhat expanding below, and obtusely sulcate; lateral carinæ distinct, curving outward to the corners of the face. Pronotum covered somewhat regularly with small tubercles, otherwise not very rugose, being but slightly wrinkled transversely; median carina moderately elevated, nearly straight on top, interrupted only by one slight notch; lateral carinæ wanting on the anterior lobes, distinct, but obtuse on the posterior lobe. Elytra and wings longer than the abdomen; there is in the female a distinct expansion of the lower border of the elytra near the base, the nerves of the dorsal field ramose and prominent. Posterior femora very broad, the width near the base being about equal to the width of the elytra; the upper and lower carinæ much elevated and sharp; not reaching the tip of the abdomen. Valves of the ovipositor very robust, elongate.

Color.—Pale-reddish or yellowish-brown, with dark-brown or fuscous spots. Head and thorax (in dried specimens) dark reddish-brown, the sides of the pronotum nearly black; it is probable that this in living specimens, is paler and tinged with olive-green. Elytra roseate and somewhat opaque at the base, transparent at the apex, marked with tolerably large dark-brown spots, somewhat elongate transversely, placed irregularly; one of the largest crosses the lower field at the expansion near the base. Wings with the disk and basal portion a bright, deep orange-red, semi-opaque; exterior to this and just beyond the middle they are crossed by a rather a narrow fuscous band, which curves round on the posterior margin to the anal angle; it also curves slightly inward in front; exteriorly it fades into the black-nerved, transparent, apical portion; the anterior margin is bordered with a red stripe, which extends to the base; this is separated from the red of the disk by a black ray, which also extends nearly to the base. Abdomen glabrous, much more so than the rest of the body. Legs glabrous, of a clear reddish-brown; the posterior femora internally deep

blue, with a yellow ring near the apex; external face with three indistinct oblique bands. Posterior tibiae yellowish, slightly tinged with red. Antennae fuscous.

Dimensions.—*f*—Length, 1.75 inches; elytra 1.50 inches; posterior femora, length 0.93 inch, width 0.3 inch; posterior tibiae, 0.76 inch.

23. HIPPISCUS PHOENICOPTERUS. Burm.

FIG. 18.



Hippiscus phoenicopterus.

Vertex rather broad; central foveola slightly elongate, divided into two parts by a median carina; lateral foveolæ nearly obsolete; frontal costa closed above the ocellus, sulcate from the ocellus down, not reaching the clypeus. Median carina of the pronotum distinct and slightly elevated; but not cristate,

upper margin slightly depressed and severed a little before the middle; lateral carinae distinct; disk flat; anterior margin sub-truncate; apical little less than a right-angle; disk granulose. Elytra and wings passing the abdomen. Antennae of the male somewhat flattened, joints sub-distinct. Posterior femora remarkably broad.

Color.—Testaceous-brown. Face ashy-brown, cheeks paler; occiput dark-brown. Pronotum sometimes almost uniformly brown; at others, the disk has on each side a broad testaceous stripe, also a spot of the same near the front margin, and another near the center of the sides. Elytra with the costal margins pale and unspotted; middle field fuscous, with a testaceous stripe, also a spot of the same near the front margin, and another near the center of the sides. Elytra with the costal margins pale and unspotted; middle field fuscous, with a testaceous stripe along the middle nerve near the base, which bends upward near the center; beyond this is a triangular spot of the same, with the base on the middle nerve; varied with fuscous spots and testaceous near the apex. Wings with the disk vermillion-red, a tolerably broad, fuscous, arcuate band beyond this, marginal behind, reaching the anal angle; a broad marginal ray of the same extends along the front to the base, separated from the red by a narrow transparent ray; apex dusky. Posterior femora testaceous, crossed externally by three narrow curved bands, spotted inside with black; tibiae dusky.

Dimensions.—*f*—Length, 1.45 inches; elytra, 1.24 inches; posterior femora, 0.87 inch long, 0.25 inch wide; posterior tibiae, 0.78 inch. *m*—Length, 1.05 inches.

24. CAMNULA PELLUCIDA. Scudd

Size small. Foveola of the vertex distinct, sub-elongate, triangular; apex closed and rounded; frontal costa narrow and convex above, expanding below, impressed at the ocellus, not sulcate. Pronotum much like that of the *Stenobothri*; tricarinate; median carina distinct and slightly prominent, continuous and solid, straight on top; lateral carinae distinct, but not raised, slightly arcuate along the posterior lobe, most convergent near the front margin; disk nearly flat; no transverse impressions distinct on the disk; anterior margin slightly angled; posterior extremity also obtuse angled. Elytra and wings pass the abdomen slightly. Posterior femora about as long as the abdomen in the female.

Color.—Ash-brown. Face reddish-brown; antennae yellowish at base, dark-brown towards the apex; a triangular black spot behind the eye, apex touching the eye. A quadrate, transverse, black spot on the anterior part of the sides of the pronotum; disk sometimes has a dark band along the middle. Elytra fuscous-brown; a yellow stripe along the dorsal angle; a yellow line reaches from the base along the sub-frontal nerve to a yellow spot on the lower (or front) margin, near the middle; apical half and lower margin marked with yellow lines and fuscous spots. Wings pellucid with black nervules. Legs dark-brown; the hind femora yellowish or reddish-brown, with two or three rather broad, oblique, dark-brown streaks, dark at the apex; hind tibiae yellowish-brown, reddish towards the tip, with a very narrow, generally faint, annulation of dark-brown at the base; spines tipped with black.

Dimensions.—*f*—Length, 0.9 to 1 inch; elytra, 0.75 inch; hind femora, 0.55 inch; hind tibiae. *m*—Length, 0.65 to 0.70 inch.

25. PEZOTETTIX UNICOLOR. Thos.

Female.—Occiput short; vertex rather broad, elongate, channeled, the slightly elevated margins continuous with the margins of the frontal costa; frontal costa prominent, slightly sulcate, and somewhat expanding at the ocellus; lateral carinae distinct but not very prominent; eyes sub-elongate, acuminate at the apex. Pronotum regularly angled; sides parallel; tricarinate; carinae equally distinct; sides flat, compressed; the two sides of the disk flat but slightly ascending to the median carina; posterior sulcus situated behind the middle, distinct; the first and second indistinct; all somewhat distantly separated.

Elytra about half as long as the abdomen, oblong-ovate; wings minute. Abdomen compressed, pisciform. Posterior femora passing the abdomen slightly. Prosternal spine of moderate length, very broadly transverse, the width nearly equaling the length, blunt and rounded at the apex.

Color.—Reddish-brown throughout, varying slightly in depth of color. Elytra unspotted. The hind femora have the spaces between the ribs of the disk marked with minute, elongate, red spots, which are surrounded by testaceous rings; (these can be distinctly seen only with a magnifier). The posterior lobe of the pronotum and a ring round the front sub-margin rather coarsely punctured; the sides glabrous.

Dimensions.—Length, 0.88 inch; elytra, 0.26 inch; posterior femora, 0.55 inch; posterior tibiæ, 0.46 inch.

26. PEZOTETTIX MINUTIPENNIS, Thos.

Female.—Head short, eyes approximate above; the vertex very narrow between them, suddenly expanding to lateral angles just in front of them, slightly, sometimes scarcely, sulcate. Face, seen from the side, oblique and arcuate; frontal costa somewhat prominent, continuous nearly or quite to the clypeus, sides parallel, not, or very slightly, sulcate. Pronotum, cylindrical, the median carina distinct, though it is but a very slender line; lateral carinæ wholly obliterated; sides nearly parallel, expanding very slightly posteriorly; anterior margin squarely truncate; posterior truncate, with a slight notch at the middle, sometimes scarcely distinct; the posterior transverse incision is situated much behind the middle, reducing the posterior lobe to but one-third the length of the pronotum; the posterior later angle rounded, and the margin from thence up to the middle rounded with no inward curve or notch except the one at the middle of the dorsum.

Elytra minute, not meeting on the back, the space between them being more than the width of one of them; narrow, spatulate, width about one-third the length; extending over the second abdominal segment; longitudinal nerves prominent and similar. Abdomen somewhat prominent and carinated at the base, but suddenly decreasing in size posteriorly, so that near or a little beyond the middle it becomes cylindrical. Anterior femora slender; posterior femora about as long as the abdomen; upper carina distinct, and the upper external angle distinct and somewhat sharply defined; the tibiæ distinctly expanding below. Prosternal spine broad at base, transverse, bluntly rounded at the tip.

Color.—Head and thorax varying in different individuals from dull greenish white to brown, with a clearly defined shining black line extending on each side, from the eye to the posterior margin of the pronotum. Posterior femora bright pea-green, unspotted except the tip, which is black; tibiae greenish, with the spines black.

Male.—Much smaller than the female; eyes very prominent, and so closely approximate above that the portion of the vertex between them is reduced to a mere thread; the antennae comparatively large and reaching back to about the tip of the tip of the second abdominal segment. Tip of the abdomen strongly curved upward; cerci somewhat elongate, slender, and narrowed in the middle; tip of the last ventral segment somewhat conical, entire. Face quite oblique and arcuate.

Color.—(of the single specimen seen).—Face and disk of the pronotum dull ash-brown; cheeks and space of the pronotum below the black stripe pale ash-brown, or rufous; posterior femora greenish-yellow, deeply tinged with bright-rufous above.

Dimensions.—Female, length .90 inch; male, length .65 inch.

27. PEZOTETTIX VIOLA. Thos.

Female.—Rather large and robust, resembling somewhat a short-winged *Caloptenus bivittatus*, excepting the stripes.

Vertex and frontal costa not, or but slightly sulcate. Pronotum with the median carina slight; lateral carinae, or rather lateral angles (not being true carinae) somewhat distinct; disk flat; sides flattened and perpendicular; posterior margin obtusely rounded; posterior lateral margins with a distinct inward curve or rounded notch at the humerus, the portion below the notch perpendicular. Elytra ovate-lanceolate, the externo-median nerve distinct; not always meeting at the base, but overlapping more or less toward the apex; varying in length from about one-third to more than one-half that of the abdomen, occasionally almost as long as the abdomen.

Color.—Varying from a dull olive-brown to ash-brown. Head and thorax brown; elytra with the upper field, or dorsal portion pale yellowish brown; lower fields, or lateral portion brown, varying from light to very dark brown; sometimes almost black; the paler specimens usually have a few dark brown, rather small spots along the disk or near the tip; the posterior femora reddish with oblique brownish bands; posterior tibiae rufous.

Dimensions.—Length, 1 to 1.2 inches.

28. PEZOTETTIX SCUDDERI. Uhler.

Resembles somewhat strongly a short-winged *Caloptenus femur-rubrum*. General color reddish-brown and fuscous. The cranium is less prominent than in *C. femur-rubrum*; the thorax slightly broader, and in the female the black stripe on the sides of the head and pronotum is much narrower, and sometimes entirely obsolete; the whitish oblique stripe on the metathorax indistinct and sometimes entirely obsolete. The elytra do not reach beyond the apex of the second abdominal segment. The underside of the posterior femora is yellow, and the tibiae have a black dot on the knee, and a black ring just below it. The tip of the last ventral segment of the male is more narrowed, acute and conically produced than in *C. femur-rubrum*. In other respects than those mentioned it agrees with this species.

Length of female .8 to .9 inch; male .6 to .7 inch.

I am not certain that I have met with any specimens of this species obtained in Illinois; it is inserted in our list on the statement of Mr. Walsh that he had observed it at Rock Island.*

I have considerable doubt in reference to the species, and do not understand why Mr. Uhler, who is usually so full and exact in describing species, should have given so imperfect a description in this case, which I have given above almost in his own words.

NOTE.—Have since seen specimens collected in Illinois.

29. THE ROCKY MOUNTAIN LOCUST—(*Caloptenus spretus*—Thos.)

FIG 19.

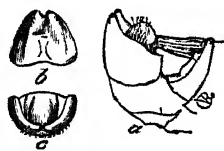


Caloptenus spretus, Female.

Female.—The face nearly perpendicular, sloping under toward the breast very slightly. The vertex between the eyes the same width as the frontal costa just above the ocellus; that portion in front of the eyes more or less distinctly channeled, and deflexed at an angle of about 40 degrees from horizontal. Eyes nearly straight in front, about semi-circular behind. Antennae quite slender, reaching little if any

beyond the tip of the pronotum. Pronotum, with the sides of the anterior lobes parallel, the posterior lobe expanding rapidly backward; median carina thread-like, but always distinct on the posterior lobe, usually obsolete on the anterior lobes; lateral carinae obtuse but distinct on the posterior lobe and usually so on the middle one but becoming obsolete toward the front; posterior lateral margin, perpendicular from the humeral (entering) angle one-third the way down, then curving forward to the posterior lateral angle which is obtuse and rounded; the (entering) humeral angle is sharply defined, and in this respect differs from *C. femur-rubrum* and *C. atlantis*; the apex is obtuse-angled (about 100°) rounded at the point; posterior lobe minutely and shallowly punctured throughout; the anterior lobes smooth with few or no punctures except along the lower margins of the sides. Elytra and wings extending beyond the tip of the abdomen from one-fourth to one-third their length; the elytra are of nearly uniform width throughout, slightly curving upward at their extremity; wings a little shorter than the elytra, very thin and delicate; nerves and nervules very slender. Abdomen, and in fact the whole insect rather more slender than usual in this genus; but this appearance is partly due to the elongated wings; cerci very small, triangular or tooth-shaped, not extending across the segment on which they rest; valves of the ovipositor quite prominent, especially the upper pair which are more than usually exerted, sharp at the tips and deeply excavated above. The posterior femora usually extend to or about to the tip of the abdomen.

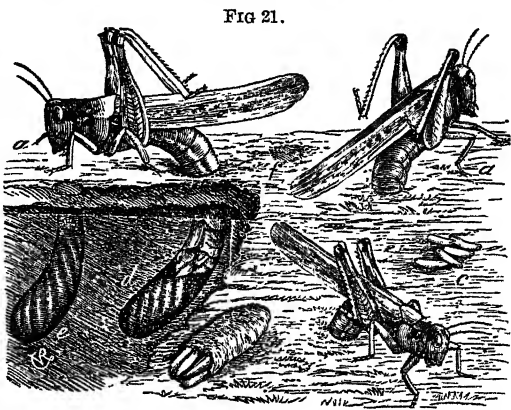
FIG. 20.



Tip of the male abdomen of *Spretus*; a lateral view of the terminal segments; b under side of terminal segment; c upper side of same.

Color.—Reddish-brown with fuscous spots. Head and the pronotum back to the posterior sulcus reddish-brown, varying in depth of color in individuals; the face is sometimes of a lighter and brighter red than the pronotum, sometimes darker, assuming a dark purplish hue; the posterior lobe of the pronotum is generally a pale olive-brown, its lighter color contrasting somewhat distinctly with the darker shades of the anterior portion. Some individuals exhibit much lighter colors than here described, varying from a dark-brown to a dull yellow. The dark line on the side of the head and pronotum, usually so conspicuous in the closely allied species, is generally obliterated in this species by the dark-brown color; but it usually appears distinctly in specimens which have been immersed for sometime in alcohol, and is also manifest in the pale individuals, but is broken up by pale spaces and lines, and is rather narrow; the eyes shining black; elytra ash-brown, more or less tinged with reddish-brown at the base and fading toward the apex; in the middle field, commencing near the base, where this field comes to a point, is an irregular row of fuscous dots, usually single to where the thin portion commences, now and then a double dot appearing; from this point to the apex they decrease in size and distinctness, and spread over the entire width; as a general rule the inner field is marked with a few fuscous dots, in some individuals a few quite distinct are seen, in others they are very minute and dim, and not unfrequently they are entirely wanting. Wings transparent, with a very slight yellowish tinge at the base; nerves and nervules of the costal

area and apex black, rest pale. The abdomen is generally a glossy brown, with the posterior margins of the segments pale; venter yellowish or pale brown; sternum pale brown or yellow; anterior and middle legs usually rufous, but varying from reddish-brown to pale honey-yellow. Posterior femora with the disk reddish-brown, sometimes showing dim outlines of oblique bands; the innerface and lower carina yellowish, the latter usually tinged with red; the upper carina and upper portion of the inner face yellowish, marked with three large black spots or partial bands, one at the base, the other two equally spaced in the middle area; apex or knee black, or with a black crescent each side. The posterior tibiae vary in color from a bright coral-red to a pale yellow, and in some cases to bluish.



Calaptenus spretus. a a females in the act of depositing their eggs; b an egg pod with one end open showing the eggs; c eggs separated from the pod; d and e show the egg pods in their usual position in the earth; f shows where a pod has been deposited and the hole closed.

The posterior tibiae vary in color from a bright coral-red to a pale yellow, and in some cases to bluish.

Male.—Differs from the female as follows: Is somewhat smaller and shorter; but the wings are about as long as those of the female; the abdomen is enlarged or widened posteriorly and strongly curved upward at the apex; the last ventral segment being elongated, rounded and narrowed upward like the prow of a boat, and is distinctly notched at the tip, the lips or lobes somewhat tubercular in form. This part of the apical segment is covered with minute scattering hairs. This notch forms one of the chief characteristics of the species, at least the most important one in distinguishing it from *femur-rubrum*. The super-anal plate or triangular piece above the anal opening, is sharply bicarinate longitudinally; the tooth-like appendages at the base, above, are narrow and slender. The cerci are somewhat longer than the width of the preceding segment, are broad and flat throughout, the width equaling two-thirds the length, not suddenly narrowed or constricted, moderately curved upwards and inwards; roundly narrowed and depressed at the apex. The prosternal spine (in both sexes) is subquadrate and large at the base, but distinctly transverse; robust and decidedly conical, gradually lessening to a blunt point.

Dimensions.—Female. Length to tip of elytra, 1.15 to 1.43 inch, usually about 1.30; length of elytra beyond the tip of the abdomen, 0.15 to 0.48 inch; usually 0.22 to 0.27 inch. Male. Length to tip of elytra, 1.15 to 1.40 inch; usually 1.20 to 1.30 inch; length of elytra beyond the tip of the abdomen, 0.20 to 0.38 inch, usually 0.25 to 0.33 inch.

30. THE LESSER LOCUST—(*Caloptenus atlantis*). Riley.

The species most closely allied to *spretus*, or the Rocky Mountain locust, is *C. atlantis*, Riley, or the "Lesser Locust," which the author describes as follows: "Length to tip of abdomen, 0.70 to 0.85 inch; to tip of the closed wings, 0.92 to 1.05 inches. At once distinguished from *femur-rubrum* by the notched character of the anal abdominal joint of the male, and by the shorter, less tapering cerci; also, by the greater relative length of the wings, which extend on an average nearly one-third their length beyond the tip of the abdomen in dried specimens; also, by the larger and more distinct spots on the wings—in all which characters it much more closely resembles *spretus* than *femur-rubrum*. From *spretus*, again, it is at once distinguished by the smaller size, the more distinct separation of the dark mark running from the eyes on the prothorax, and of the pale line from the base of the wings to the hind thighs; and also by the anal joint in the male tapering more suddenly, and by the two lobes forming the notch being less marked. From both species it is distinguished not only by its smaller size, but by the deeper, more livid color of the dark parts, and the paler yellow of the light parts, the colors thus more strongly contrasting.

"Just as the typical *femur-rubrum* is at once distinguished from the typical *spretus* by the characters indicated, so *atlantis*, though structurally nearer to the *spretus*, is distinguished from it by a glance at its much smaller size, and darker, more marked coloring. The contrast is all the greater in the living specimens of *spretus* that at all approach it in these respects."

I find the male, as seen in Illinois, varies in length to the tip of the elytra as follows: 0.97, .095, 0.98, 0.95, 0.96, 0.34, 1.05, 0.93—averaging 0.954.

31. THE RED-LEGGED LOCUST—(*Caloptenus femur-rubrum*)—Deg.

FIG. 22.

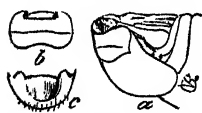
*Caloptenus femur-rubrum*.

This is our common Red-legged Locust, and has been so often mentioned and described in scientific and agricultural publications that I will simply refer to the differences between it and two other species (*spretus* and *atlantis*).

Female.—As compared with *spretus* the only very marked difference between the females is the shorter wings of this

species, yet there are other slight differences observable when a large number of specimens are compared. The eyes in *femur rubrum* are slightly more prominent; the head, pronotum and sides of the thorax are usually some shade of olive-brown, varying from pale to almost black; the black line behind the eyes is quite broad, seldom broken up, and is distinct in the darkest specimens. The humeral (entering) angles of the posterior margin of the pronotum are more rounded and not so sharply defined as in *spretus*; the median carina is usually more distinct on the anterior lobes, while the lateral carinae are rather more obtuse and not so well defined; the punctures on the posterior lobe are more distinct. The wings extend but slightly beyond the extremity of the abdomen, usually less than one-tenth their length. In this species and *atlantis* the intercalate vein is present in the elytra dimly and imperfectly, it is true, but it can be clearly distinguished for more than half the length of its course. In *spretus* it is wanting, its place being marked by the line of union between the two rows of cells. The fuscous spots or dots are not so conspicuous or widely spread over the apical portion of the elytra, and the elytra are narrower and straighter. As a very general rule the external face of the posterior femora is black or brown, the lower margin and lower half of the inner face bright coral red; when these colors are well defined there is a yellow space or stripe between the red and black; but these markings are subject to considerable variation, the red being sometimes entirely wanting, the external face dark and the lower margin yellow, sometimes the dark is replaced by a pale-olive. The tibiae are most generally bright red, but this character is not without its exceptions. Usually there is a pale ray extending from the base of the wings to the posterior coxa, but is occasionally wanting in dark specimens, and is generally absent in *spretus*. The prosternal spine is not so distinctly quadrate at the base as in *spretus*, transverse, flattened behind and not regularly conical, but somewhat sub-cylindrical to the broadly rounded and very blunt apex.

FIG. 23.



Tip of male abdomen of *femur-rubrum*. Letters have same reference as in Fig. 20.

Male.—The most constant difference between the species is found in the form of the last ventral segment of the male; in *femur-rubrum* this segment, although strongly curved upwards, as in *spretus*, is not so distinctly narrowed toward the end, but rounded, and instead of being notched toward the end, is squarely truncate, presenting a sharp, horizontal and almost semi-circular margin (see Fig. 23). Below the tip, on the posterior face of the segment, is a rather large, transverse, gash-like indentation. The cerci are about the same length as those of the male *spretus*, and about the same width at the base. The little tooth-like appendages at the base of the super-anal plate are elongate and slender, as in *spretus*, and are sinuate.

In addition to the characters mentioned in the original description of *atlantis*, I would call attention to the following differences between it and *spretus* on the one side and *femur-rubrum* on the other.

Female.—As compared with the female of *spretus* the wings are shorter, extending but very slightly beyond the tip of the abdomen, not differing perceptibly in this respect from *femur-rubrum*; the elytra are narrower, curved upward very slightly at the apex, very few spots

or dots on the apical portion and these minute and dim; the inner field is almost always immaculate; the posterior half of the intercalate vein apparent. The wings pellucid, but when living have, next the base, a bluish-white tinge; a larger portion of the nerves and nervules dark. The black stripe on the side of the pronotum nearly always apparent even in the darkest individuals; head and anterior lobes of the pronotum with the velvety appearance so marked in *spretus*, but here dark or olive-brown without the reddish tinge so common in that species; the pale, oblique, metathoracic ray usually apparent but often obliterated.

There are no reliable characters by which to distinguish it from the female of *femur-rubrum*; the posterior lobe of the pronotum is usually less conspicuously punctured, agreeing in this respect with *spretus*.

Male.—Differs from *spretus* in being smaller, pronotum rather more constricted and sub-cylindrical; eyes more round and prominent; the notch at the tip of the last segment less distinct, sometimes almost obliterated; more of the nerves of the wings dark.

From the male of *femur-rubrum* it differs in usually having longer wings, in some individuals they are as long, proportionally, as in any specimen of *spretus*, in others little or no longer than in *femur-rubrum*; in the more slender form and smaller size; in having the apical segment of the abdomen narrowed and notched at the tip; in having the cerci broad throughout and shaped as in *spretus*; in having the tooth-like appendages at the base of the super-anal plate shortened and broadened, and with a longer union at their base.

It is evident from these characters that *atlantis* is an osculant form, intermediate between *spretus* and *femur-rubrum*, partaking largely of the characters of each, and in a few respects differing from both. The female approaches very near *femur-rubrum*, scarcely showing varietal differences from the female of that species; while on the other hand the male approaches much nearer *spretus*, as shown by the character of the terminal segment of the abdomen, the form of the cerci and the length of the wings.

32. CALOPTENUS BIVITTATUS, Say.

In this very common species, the vertex of the female is convex or but slightly depressed, and the frontal costa not sulcate; in the male the frontal costa is more or less distinctly sulcate. Elytra and wings but little longer than the abdomen. The last ventral segment of the male has the apical margin entire and circular. Pronotum with the sides straight, very slightly expanding posteriorly; posterior cross-incision distinct; posterior femora equal to or passing the abdomen.

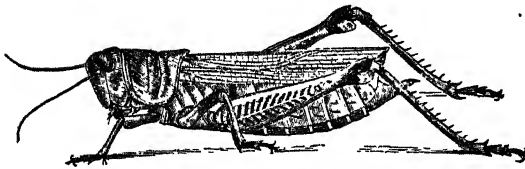
Dull-green or olive-brown color, with a distinct yellowish or pale stripe along each side extending from the upper angle of the eye, along the lateral angle of the body to the extremity of the elytra. Mouth pale, face varies from yellowish to olive-brown; the disk of the pronotum from pale reddish-brown to dark olive-brown; as also do the elytra; the latter sometimes have a few quite small dusky spots on the disk, but generally they are unspotted. Wings transparent, tinged with greenish or greenish-yellow; nerves greenish-brown or blackish. Hind femora generally with a dark stripe along the upper edge of the disk; yellow below; upper margin with two pale spots; posterior tibiae usually red, but there is great variation in this respect, almost every color from black to yellow being found.

Length very variable; female 1. to 1.62 inches; male smaller.

One of our most common species, found everywhere throughout the State. I am inclined to believe the following species, *C. differentialis*, is somewhat superseding it.

33. CALOPTENUS DIFFERENTIALIS Thos.

FIG. 24.



Caloptenus differentialis.

This is our largest species of this genus, quite robust; elytra passing the abdomen slightly and without spots or stripes; varying from a dull olive-green to an olive-brown; paler beneath.

Vertex elongate, depressed, broadly sulcate, closed in front; frontal costa, broad, flat or slightly sulcate; sides parallel; lateral carinae distinct, slightly divergent. Pronotum sub-quadrate; sides perpendicular, parallel; lateral carinae or humeral angles obtusely rounded; median carina small, but distinct, except on the post-median lobe of the female; third transverse incision very distinct and deeply indented, others distinct. Posterior femora much enlarged near the base, the disk convex, about as long as the abdomen; posterior tibiae enlarged near the tip, hairy. Prosternal spine cylindrical, bent slightly backwards. Sub-anal plate of the male triangular; apex blunt, entire; cerci with the basal half broad, an obtuse tooth about the middle of the posterior margin, above this, bent and tapering.

Color.—Male. Head and anterior lobes of the pronotum reddish or olive-brown; sides paler, with from one to three oblique, black lines; transverse incisions dark on the sides. Elytra unspotted, olive-brown, sometimes reddish at the base, semi-transparent. Wings pellucid; nerves of the apical and front portions dark, rest yellowish. Posterior

femora yellow; three black spots on the upper edge; interspaces of the disk black, ribs pale yellow; tibiae usually yellow, spines black. Abdomen yellow, with small, black spots and stripes. Venter and pectus yellow or ash-yellow.

Female similar, except that the head and thorax are usually olive, and the legs and venter of a brighter yellow.

Length. Female, 1.4 to 1.8 inches; Male, 1.2 to 1.4 inches.

Found abundantly throughout the State.

34. *ACRIDIDIUM RUBIGINOSUM*. Harr.

Facial carinae prominent, diverging but slightly; frontal costa sulcate its entire length, thickly punctured. Pronotum with a prominent median carina, continuous and slightly arched; scarcely expanding posteriorly; transverse impressions dim. Elytra and wings about as long as the abdomen; posterior femora of the female a little shorter.

Color, a light rust-red, somewhat uniform throughout. Elytra opaque, rather paler on the overlapping portion, without spots, or sprinkled over with dim, small, dusky spots. Wings transparent, slightly reddish toward the tip; veins blackish. Posterior femora reddish; the flat disk whitish, with a row of black dots above and below; apex with a lunate, black spot on the side. Spines of the tibiae whitish, tipped with black.

Length of female 1.4 to 1.6 inches; male much smaller.

This is a rather rare species, and is found only in the region of oak forests or groves, at least such has been the result of my observations.

35. *ACRIDIDIUM EMARGINATUM*. Uhler.

This species is closely allied to *A. alutaceum*, Harr., which it resembles very much.

Frontal costa sparsely punctured; lateral carinae of the face slightly divergent. Pronotum densely, and on the anterior lobes coarsely punctured; posterior lobe expanding moderately. Elytra passing the abdomen one-fourth their length; nervules prominent. Posterior femora about as long as the abdomen. Prosternal point stout, cylindrical, obtuse, slightly bent backward. Cerci very broad, somewhat notched at the apex. Pulvilli remarkably large, oblong-ovate.

Color, a pale red lish brown, tinged with green. A distinct, median, yellow stripe reaches from the vertex to the tip of the pronotum, and extends upon the suture of the elytra. A row of distant, black punctures on each margin of the frontal costa, and a row across the upper part of the clypeus. Palpi and antennæ yellow, and the sides of the pronotum sparsely sprinkled with yellow dots. Elytra translucent, pale reddish-brown; nerves darkest. Wings transparent, tinged with greenish yellow at the base; nerves and nervules dull yellow, darkest near the middle of the outer border, slightly tinged with red near the anterior border. Anterior and middle legs greenish externally; striped with black internally. Posterior femora pale green; upper margin of the disk marked with a row of black dots. Posterior tibiæ with the inner face black; outer face greenish-purple. Posterior margin of each abdominal segment marked with a ring of black dots.

Length of body of female 1.15 inches; male 1.25 to 1.4 inches.

This is a western species and but few specimens have been taken in this State.

36. ACRIDIUM AMERICANUM. Drury. (Fig. 10.)

Female.—Large size. Vertex hexagonal, with a central depression; frontal costa solid and somewhat prominent above the ocellus, sides nearly parallel. Eyes elongate oval, rounded behind, straight in front. Pronotum expanding at the posterior lobe; median carina but slightly prominent; humeral angles sub-distinct on the posterior lobe, obtusely rounded; anterior and middle lobes marked with minute shallow cells, each having a very minute tubercle in the centre; posterior lobe densely punctured; posterior margin about right-angled; apex rounded. Elytra and wings passing the abdomen one-third their length. Posterior femora reaching the apex of the abdomen. Prosternal spine large, curved backward and hairy.

Color.—Reddish-brown, with a slight vermillion tint. A yellow stripe extends from the vertex along the middle of the head and pronotum, and also upon the suture of the closed elytra as far as the tip of the abdomen. A dark brown line down the cheeks below the eyes. On the sides of the pronotum is a yellow stripe extending from the sub-marginal to the last cross-incision, directed a little obliquely downward; below this is a brown stripe; then a narrow yellow stripe directed obliquely upward; lower margin yellow.

Elytra opaque and reddish at base, rest semi-transparent; a narrow, white stripe on the lower margin, next the base; the disk and apical half marked with large cellular, fuscous spots.

Wings transparent; nerves at the base and inner portion yellowish-white, of the other portions black. Legs bright vermillion red. Posterior femora have a row of black dots along the upper and lower margins of the disk and one through the middle; spines of posterior tibiae yellow, tipped with black. Each segment of the abdomen has a ring of dusky dots on its posterior margin.

Male.—Much smaller. Sub-anal plate prolonged, deeply notched at the apex; cerci very broad, straight and truncate at the apex.

Dimensions.—*f*.—Length of body, 2 inches; elytra, 2.1 inches; posterior femora, 1.15 inches; posterior tibiae, 1.05 inches. *m*.—Length of body, 1.7 inches; elytra, 1.65 inches; posterior femora, 1 inch; posterior tibiae 0.9 inch.

These dimensions are only intended to express the average, but there is less variation in this than in many other species in this respect.

Var. ambiguum.—Very similar in size, markings, and carvings to *americanum* from which it differs chiefly and almost exclusively in the general color and time of appearance; being yellow or brownish-yellow, where the other is reddish-brown or vermillion. It is also somewhat more robust and appears much earlier in the season.

This species is found only in the southern half of the State. The red variety is somewhat common and occasionally quite abundant in limited localities. The yellow variety as a general rule is rarely met with and appears to be a more southern form of the species, which in this respect corresponds exactly with its congener *A. peregrinum*.

TETTIGINÆ. (See Fig. 11).

The descriptions of the species of this group are omitted for the present because of the uncertainty as to what are true specific characteristics. It is my intention as soon as I have had an opportunity of examining sufficient material and arrive at a satisfactory conclusion as to what are really species and what varieties, to describe such as are found in Illinois.

LIFE-HISTORY OF LOCUSTS.

The entire life-history of but few species of the *Acrididae* have been studied, and these chiefly of the more destructive ones on account of the greater interest attached to them. Although the history of each species has some peculiarity in reference to it which is of value in economic entomology, yet, in a general sense, they are so nearly alike that the history of one will answer for that of all.

The female ovipositor, as we have already seen, consists of four horny valves, two which curve upward and two downward; with these, when ready to deposit her eggs, she forms a hole in the ground to a depth corresponding with the size of the species. The eggs are then deposited one at a time in this hole, placed in regular order so as to form an elongate oval mass. During the process a glairy white fluid is emitted which at length hardens and binds them together and encloses the mass giving it ultimately the form somewhat of a large bean. The hole above the mass is then closed with dirt intermixed with this fluid which, when it hardens, renders it partially at least impervious to moisture. The number of eggs deposited varies in the different species, a single mass deposited by the Rocky Mountain locust, (*C. spretus*), containing from twenty-five to thirty; the number deposited by some other species is considerably larger, and by some probably less. The eggs of all the species so far observed are elongate, cylindrical and slightly bent or curved; and when in the mass are placed in four tiers or rows, with the end in which the head will be formed, pointing upward, thus enabling the young insects readily to make their way to the surface of the ground. When the embryo is formed and ready to make its escape, it is enclosed, besides the outer shell, in a tough inner covering, which it does not wholly rid itself of until after it reaches the surface.

Whether the female deposits more than one mass is yet a somewhat disputed point; that some species, as *C. spretus*, *C. atlantis* and *C. femurrubrum*, whose egg-pods contain only some twenty-five or thirty eggs, deposit some three or four of these pods, has been ascertained. It is probable that those species which deposit a much larger number in a mass, complete the work at one time. For example, Prof. Riley has counted as many as 171 eggs in one mass of *Caloptenus differentialis*; 120 to 130 in those of *Hippiscus phænicopterus*; and about 120 in those *Acridium americanum*.

The particular places selected by the females for depositing their eggs vary somewhat according to the species; but the form and char-

acter of the ovipositor would indicate, at least, that nature had intended them for boring into rather hard and compact soil; and some particulars in the hatching process also appear to require this; hence, as a general rule such situations are selected in preference to loose, sandy or moist earth. I think that most species, there are probably exceptions, dislike to deposit in thick grass sward. Zinnani, a close observing naturalist who lived at Venice over one hundred and fifty years ago, and who gave a full and accurate description of the process of egg-laying of the *Caloptenus italicus*, was of the opinion that the eggs deposited in the roots of grass were unfecundated. Subsequent observations have failed to confirm this opinion.

I have observed the female of the American locust boring into the hard compact soil of a well traveled street. In one instance I found the eggs of the common Red-legged locust in a piece of rotten wood, not combined in a mass; these were preserved and nearly or quite all of them hatched out.

When first hatched they are similar in form to and have all the organs of the perfect insect, except the wings, which are entirely wanting. In a few hours after exclusion they commence eating such appropriate food as they find at hand. Being generally great feeders they grow rapidly, and hence undergo repeated moults, usually from three to five before they arrive at the perfect state. At the second or third moult the wings make their appearance; then they are considered as having entered upon the pupa state. The *Calopteni*, or at least those that have been carefully studied, undergo another moult, the wings increasing in length, but not yet complete, and then by another change pass into the perfect state. As heretofore stated, there is no true or quiescent pupa state in the life-history of these insects; they continue feeding in all their stages. The length of time they remain in the preparatory states,—that is, from the time they leave the egg until they acquire full wings, varies according to the species, and also somewhat as to supply of food and the character of the season. The average length in the case of the Rocky Mountain locust is about seven weeks.

The process of moulting, as perhaps every reader knows, consists in casting off the outer integument or skin.

To those unacquainted with the appearance of the pupa state and the differences between it and the perfect state, it is often a puzzling question to decide whether a short-winged specimen is a perfect insect or a pupa. A little study will enable any one to determine this point with unerring certainty. The elytra of the pupa are in fact twisted around so that the faces and margins are precisely reversed from what they are in the perfect state; that which is to be the inner face is the outer face in the pupa, and the costal margin is the upper or anterior margin; the apical veins which curve upward in the closed elytra of the perfect insect curve down in the pupa. This peculiar arrangement will therefore enable any one soon to determine whether a short-winged specimen is a pupa or a perfect insect.

As a general rule the species found in our State appear to be single-brooded, but there are certainly some exceptions to this rule. The green-striped locust is certainly double-brooded in the southern part of the State as is also *C. atlantis*, and I am inclined to think that in the extreme southern portion *C. differentialis*—the Lubberly *Caloptenus*—is also two-brooded. On the contrary, the Rocky Mountain locust

certainly is not, as far south as this latitude; *Acridium americanum* is not in this State; *Truxalis brevicornis* is not; there is some uncertainty on this point in reference to *Caloptenus bivittatus*, and *C. femur-rubrum*. As a matter of course the determination of this question depends somewhat upon the latitude.

INJURIES BY GRASSHOPPERS.

As all the Acridians are vegetable eaters and continue to feed from the time they are hatched from the egg, through all their stages, as larva, pupa and perfect, it must necessarily follow that they are injurious, except where their attacks are confined to noxious or useless weeds. As a general rule they appear to feed on a large variety of plants; for example *Caloptenus spretus* is known to feed on almost every plant that comes in its way when migrating out of its native habitat; but some observations made in Colorado lead me to believe that when not pressed by hunger nor migrating it does not attack plants so indiscriminately. Although our common red-legged species (*C. femur-rubrum*) is a somewhat general feeder, yet it evidently eats in preference the grasses and prefers the open areas where the ground is rather dry and the grass not very rank. On the other hand *C. bivittatus* or the striped Caloptenus, and *C. differentialis* or the Lubberly Caloptenus prefer patches where the grass and weeds are rank and succulent, and appear to feed on rank weeds in preference to grass. At one place in Nebraska I observed a few years ago a peculiar variety of the Lubberly Caloptenus feeding almost exclusively on one particular weed. At another time I found the striped species feeding on and undergoing its moults among the leaves of horse-radish.

The favorite spot of the American Locust (*Acridium americanum*) in this vicinity is among the little willows and low bushes along a ravine that runs through a field near town, the borders of which are covered by a heavy growth of rank grass. At another point, a favorite spot is a thicket of low oak bushes, where grass and weeds are also abundant. It appears to feed on the grass and weeds, but is fond of flying up into the bushes and low trees when disturbed. This species, which does not extend further north than the middle of the State, appears in the perfect state about the first or middle of July—that is, the red variety or true American Locust; the yellow variety *ambiguum*, is much less numerous, and appears much earlier in the season. It is this variety which appears occasionally to pass the winter in the perfect state. It is a little remarkable that there are two precisely similar varieties of the very closely allied African migratory locust—*Acridium peregrinum*. In this case the yellow variety is the more southern, and possibly the same thing is true in reference to our species.

The Emarginate Locust—(*Acridium emarginatum*) appears to prefer, if it does not feed exclusively on the leaves of tall, rank weeds. I remember noticing at one time a large number feeding on some hemp growing on the bank of the Missouri river.

Oedipoda carolina or the Carolina Locust, so readily distinguished by its broad, black wings with a yellow band around the border, is fond of dry and somewhat barren spots, that are but partially or scantily covered with low vegetation. It does not appear to be a voracious feeder. I have never observed them congregated in any considerable number, except at one point, this was a vacant lot in Washington city, where for a number of days large numbers were collected. It is apparently innoxious, although common throughout the United States.

The Goathead Locusts, (*Tragocephala*) especially the Green-striped Locust (*Tr. viridifusciata* var. *virginiana*) and the Dusky Locust (same species var. *infusciata*) are so common that it is thought by many that they must be injurious. My observations have not confirmed this opinion. The Green-striped variety may occasionally be guilty of doing some slight injury to useful plants but never, so far as my experience extends to a degree to call for attention.

The Red-legged Locust (*C. femur-rubrum*) is beyond comparison the most injurious species that the agriculturists of Illinois have to contend with. The actual loss occasioned by all the other species combined, will fall far short of that occasioned by this species; unless it be that the Lesser Locust (*C. atlantis*) is much more abundant throughout the State than I think it is, and much more injurious elsewhere than in the southern part of the State, where it appears to most abound. If I may judge from collections of *Calopteni* made in the northern part of the State, it appears to be comparatively rare, there. The readers of the Chicago daily papers will probably remember noticing an account during last summer (1879) of immense numbers of grasshoppers observed floating in Lake Michigan, between Milwaukee and Racine. They had been blown into the lake by a severe storm the day before they were observed floating there. Millions of them were thrown upon the beach near Racine, some of which Dr. Hay, the well-known scientist of Racine, Wis., had the kindness to procure and send me. The number sent was about one hundred and some two or three, more or less, yet not a single specimen of *C. atlantis* among them. In the collections made by Miss Smith, at Peoria, while she was acting as my assistant, I do not recollect to have observed a single specimen of *C. atlantis*, although carefully examining the large number of *Calopteni* preserved. Even in the central part of the State, where I made some examinations last summer, at points unusually troubled by locusts, I detected but few of this species; *C. femur-rubrum* and *C. bivittatus*, being the prevailing species, the former largely predominating.

During some seasons *Caloptenus differentialis* becomes quite abundant. I remember two seasons when it appeared in great numbers in limited areas in the southern part of the State. In 1876 and 1877 several swarms of this species were observed in flight; one of these was observed at Champaign, and one at Cairo. I had the opportunity of examining in person a large number of the latter swarm, as I arrived in Cairo the next morning after they came down, and saw thousands of them yet in the streets and clinging to the sides of the houses.

Caloptenus bivittatus also occasionally develops in considerable numbers; it was very abundant in 1877 over a limited area south of Platte river near its mouth. But these species feed chiefly on weeds, and hence are not often injurious except where they enter vegetable or flower gardens, especially the latter.

Acridium americanum is occasionally quite numerous in certain localities in the southern part of the State, especially in excessively dry years. I remember one season when they did considerable injury; they attacked the corn, but this was too old and hard to be injured much by them. They attacked the gardens, and ate the onions to the very roots; wheat was also injured by them. They have been also known to take wing and migrate several miles in little swarms. A day or two before flying they may be observed congregating on the bushes, high weeds, fences, etc., showing signs of uneasiness and restlessness.

Warm, dry weather is favorable to the increase of locusts (grasshoppers,—and in this sense only do we use the term “locust” in this article); it is in the excessively dry seasons that they have always been the most injurious. Not only are they then most numerous, but vegetation has then the hardest struggle for existence, and every green spot is sure to be overrun by these hungry pests. In the sections where fall wheat is grown, it is sure, as soon as it peeps from the dry ground, to suffer from their attacks. As a general rule, instead of spreading indiscriminately over the fields, they usually commence on one side, taking the wheat clean as they go, or nearly so; at least, this is the usual habit of *C. spretus* and *C. femur-rubrum*, the latter, as heretofore stated, being the most injurious of the Illinois species.

REMEDIAL AGENCIES.

Natural agencies which assist in keeping them in check.—Fortunately, there are several natural agencies which have a tendency to prevent their increase. Of these, we may mention the following as the most important:

Climatic Influence.—Dampness is undoubtedly the most potent natural agent in keeping them in check.

Although they may have hatched out in excessive numbers, yet if a rainy season follows soon afterwards, they will to a very large extent be destroyed, and the invigorated vegetation will bid defiance to the feeble attacks of those that remain alive. Like other insects their breathing apparatus consists of a series of tubes that permeate the body, connecting with opening or breathing pores along the sides of the body, one on each side of a segment; the moisture taken in by inspiration in all probability produces disease, or at least in some way prevents the free passage of the air and thus lessens the vitality.

Excessive changes during winter also appears to have a tendency to destroy the vitality of the eggs. That those of the red-legged and

other allied species, which are somewhat boreal in their habits, can withstand a great degree of cold, is undoubtedly true, but they are certainly affected by sudden and considerable changes.

Insects and other animals that prey upon them.—The foes, especially of the same sub kingdom, to which they belong, are numerous and often assist greatly in diminishing their numbers. At present I shall only call attention to the more important of these tiny aids.



FIG. 25.
Young
Locust-Mite.

The Locust-Mite, (Trombidium locustarum) is one of the most efficient aids in keeping the locusts in check belonging to the invertebrate division. It is the same mite that Dr. LeBaron described in his Second Report as *Atoma gryllaria*. But his description relates only to the preparatory state, in which it possesses only six legs; the perfect form, as is the case with all (except possibly a very few species) mites, possesses eight legs.

When first hatched it is of an orange, or pale reddish color; ovoid in form with six comparatively long and apparently cumbersome legs; it is then very minute. When it reaches in the process of growth what may be called the full-grown larval state, it is very different in form; it is now more elongated and cylindrical, with two transverse constrictions; to use a rather ludicrous comparison, it resembles a microscopic potato. When it has reached the perfect state, it is of a deeper red, varying from orange red to scarlet. It is somewhat triangular in form with the angles rounded; being broadest in front and narrowing to the rounded posterior extremity, thickly covered with short hairs; and eight legs. The male differs from the female in being shorter, and comparatively broader in front.

Scientifically the species is distinguished by the following characters: "By the palpal claw consisting of one large hook, with a second smaller one originating from its middle, and three stout spines from near its base, and by the thumb being of uniform diameter, armed with rather long hairs terminally, and reaching to or very little beyond its tip; also by a sunken, polished plate at the end of the body, dorsally."

In the perfect state this mite lives in the ground, subsisting on such food as it can find that is appropriate, especially insect eggs and probably minute larvæ. It sometimes proves quite destructive of locust eggs, of which it appears to be very fond. In its larval state it is chiefly found on grasshoppers, attached to the back immediately under the base of the wings, or along the larger veins of the wings near the base.

As shown by the First Report of the U. S. Entomological Commission there are quite a number of insects that in their perfect or



FIG. 26.
Blister Beetle.

preparatory states prey upon locust (grasshopper) eggs. Among these are two or three dipterous larvæ; several ground-beetles and their larvæ; the larvæ of melæ, and some of the Blister-beetles (*Epicenta*); and the larva of a Hymenopterous species.

In the same report quite a number of species that prey upon the Acrideans while the latter are in the young or perfect state, are described. These include a number of our Tiger and Ground-beetles; several species of Asilus-flies (Dipterous insects), which are long, slender-bodied flies of large size; several species of large wasps. But the most effi-

cient insect aids are doubtless the true parasitic flies. These are chiefly Tachina-flies, which deposit their eggs on the body of the locust, usually near the base of the wings, where they are out of reach, and where the external membrane is the most delicate. As soon as hatched the maggots eat their way into the body of their victim, where, as is usual with internal parasites, they feed upon the fatty portions without disturbing the vital organs; before entering they leave their host and go into the ground, where they remain until they reach the perfect state. These flies, to the casual observer, appear much like the common house-fly, but are slightly larger.

Another and very singular enemy of locusts, and acts as an internal parasite, is the Hair-worm, a species of *Gordins*.

Our space and time does not permit us to describe and give the history of these various parasites at this time. This will be done as occasion may require, when attention is called to particular species of locusts or other insects which they infest; at present I am confining this part of my report to a general account of the Illinois *Acrididae*.

Remedies.—It is difficult to suggest any practicable remedies, except where these insects become so abundant as to justify the employment of means that will require considerable outlay.

Various means are used and several different machines have been invented for capturing and destroying the unfledged insects. But it seldom happens that the damage done by these insects is sufficient in this state to justify this expense, as it does in the more western states in contending with the migratory species of that region.

The best practical remedy for Illinois farmers is, as I conceive, of a wholly different character, but one that it appears impossible to put into operation. This is to protect more effectually insect-eating birds. I am aware that it is becoming almost unpopular, especially among a large number of our fruit-growers, to speak a word in praise of the birds. But even at the risk of being considered somewhat of an "old fogey," and of having "bird on the brain," I must contend that here lies one of the great remedial agencies for our farmers. I am willing to concede that the introduction of the English sparrow has proven a failure; but the evidence obtained in 1877 of the usefulness of birds in destroying locusts in the western states, is so conclusive that it ought to be sufficient to convince the most skeptical. That any general measure will not bear equally on all will always be true; that by preserving the birds our fruit-growers may and doubtless will suffer occasionally from their attacks is true; but in the long run I believe even they will be greatly the gainers.

Quite a large number of our insect-eating birds feed with avidity on the young locusts and destroy immense numbers of them. The yellow-headed Blackbird (*Xanthocephalus icterocephalus*), as well as other species of blackbirds, are perhaps the most efficient aids among the feathered tribes in destroying grasshoppers; and yet these are birds for which farmers have a particular dislike. Quails are also very useful in this respect. But strange as it may appear a large majority of our farmers will willingly pay out fifty or a hundred dollars or even more in protecting their crops by destroying insects with machinery or applications, rather than suffer half that loss by birds, which would do the same work for them and far more effectually. The reason for this is that in the one case the destruction of the insects is apparent to them, a mere matter of ocular demonstration,

while in the other they are destroyed in such a way that it is not apparent to them, and hence, as the insects do not become abundant they cannot be convinced that the birds have prevented it.

This much disputed question will never be satisfactorily settled until it is practically tested; and the only way to do this is for a county or several contiguous counties to adopt a bird-law that will effectually protect all the birds throughout the entire year, and continue this for four or five years until sufficient time has elapsed to see the result. This plan and this only, will, as I believe, ever test the matter satisfactorily. To attempt to kill off a certain species and preserve others, is equivalent to devoting all to destruction, for those that are not killed will be driven off.

Domestic fowls are great aids also in destroying locusts, as they are very fond of them; but when we suggest this remedy, it generally excites a derisive smile, for the thought comes up in the mind of the farmer who has his hundreds of acres in cultivation, "What can a few chickens do toward destroying the grasshoppers on 160 or 320 acres of meadow and wheat?" We answer but little, *very little*. Why then do we suggest such remedies? Because the God of Nature has not endowed us with miraculous powers, by which we can, with some talismanic word or token, annihilate the insect hordes he has allowed to prey upon your crops. We are students of Nature and study Nature's laws, so that by bringing them to light we may show you where ~~they~~ they have been violated, and how to restore the balance that Nature adjusted between her creatures and her various forces. You may be able to erect a barrier that will turn the stream from your land, but still the waters will flow and beat against the barrier and as soon as it is removed or broken down, in they will flow upon you. By acting in accordance with the laws that govern fluids, as, for example, by opening a new channel you may use the natural forces as assistants to keep your land always free from the overflow.

So it is in reference to the laws that govern insect life; if insect enemies are destroyed and the food upon which they live is multiplied and massed, as a natural consequence their numbers will be proportionally increased. Under these circumstances there will be against this evil but two offsets—one is that with their increase it generally follows that after a time the true parasites that prey upon them, if any, will increase in like proportion—the other consists of such means of destruction as man may be able to devise. If the species is not subject to the attacks of parasites, as appears to be true of the chinch-bug, then man will have to wage a continual warfare with these tiny foes. As entomologists, we study the life, history and habits of the species, in order to inform the agriculturist the most propitious time for, and most effectual means of destroying them. But so long as the conditions which cause their increase continue, so long must the warfare be carried on. We are led, therefore, to speak of the higher law that governs these things, and the more comprehensive and more permanent remedy which may be adopted, but with little hope, it is true, that it will be put in practice. It is to cut up the large farms and fields into smaller ones and introduce a more diversified method of farming. I am more and more led to believe that the use of machinery to the extent that it is now employed in farming is not really beneficial, at least to the mass of the people. I do not believe in

running to extremes in either direction or arraying one class of industry against another, for this is inimical to the general welfare, and retards progress in enlightenment, but to so modify and proportion them as to produce the most beneficial results. If a plan could be devised by which owners of large farms could cut them up and divide them among tenants, in parts no larger than the labor of each tenant could properly cultivate, the result would be far more beneficial to the masses, and the destruction by insects would be far less than the present method of working these large farms by machinery. This would have a tendency, which is largely growing upon us, and bringing with it a train of evils, to gravitate the laboring populations to the cities. But the question which governs in this matter is, will it pay? and so long as it is answered in the negative, so long will the present tendency continue. As the warfare with insects must therefore go on as it has done, only growing fiercer and fiercer with each returning season, we must, as our duty requires, court nature in order to persuade her to yield up her secrets that we may be enabled to devise new means of destroying the hosts of lilliputian foes that are constantly swelling their ranks by the addition of fresh cohorts.

I do not deem it necessary at present, as heretofore intimated, to enter upon a full description of the various means which may be employed to destroy locusts. If they should greatly increase, or the migratory species break over the bounds nature has hitherto fixed to its migrations, it will then become necessary ~~for~~ farmers to be fully posted in reference to the best means of defense:

Is it likely that the Rocky Mountain locust will ever invade Illinois, to an injurious extent?

A thorough and elaborate discussion of this question would require more space and time than is at this time at my command; nor is it necessary to enter upon so complete an investigation, until some reason appears to render doubtful the conclusion arrived at: *that it will not.*

Mr. Walsh, our former able entomologist, was the first to reach this conclusion, and subsequent facts and experience have tended strongly to confirm it; but at the same time these facts have demonstrated that the reasons on which he based this conclusion were erroneous.

His idea was that the reason they did not and could not invade Illinois was, that the limits reached by them in their eastern flight—about or a little east of the middle of Iowa—marked the extent of their powers of flight. "It would be absurd, for example," he argues, "to imagine for one instant that a grasshopper army, starting from the Rocky Mountains, could in one season fly all the way to France or England, or even as far as the Atlantic seaboard of the United States." He appears to have entertained that these armies came from that part of the Rocky Mountain range immediately west of us, and came in a more or less direct east course. He estimates the greatest extent of their migrations at about 550 miles, and supposes it impossible for them to extend them to 700 miles. Abundant evidence acquired since that time shows that the general course of the invading swarms is southeast, and that the area from which those come that invade Iowa and Nebraska, lies in the northwest, chiefly in Montana and British America; not within, but east of the Rocky Mountain range,—the mountain range is also a source of supply. But I now

allude to the swarms visiting eastern Nebraska and the western half of Iowa.

It has further been clearly ascertained that their migrations in a single season may, and occasionally do, extend not only 700 miles, but as much as 1,000 miles; and so far as their powers of flight and endurance of the fatigue of migration is concerned, there appears to be no reason why, with favorable winds and weather, they could not reach even the Atlantic coast. I once held a similar view to that advocated by Mr. Walsh, but a somewhat thorough investigation of locust flights has served to convince me of my error in this respect. There can be little doubt that swarms have traveled in a single season from the confines of British America to Texas. So far then as the distance is concerned Mr. Walsh was evidently in error; yet so far as his conclusion is concerned there does appear to be some law that limits their migrations toward the east. But the possibility of their crossing the Mississippi does not depend as he thought upon the elevation of a mountain range east of the Rocky Mountains, but upon a change in climatic conditions. Let Iowa and Minnesota become as dry and barren as the plains west of them and the locusts will be as certain to pour down upon the fields and prairies of Illinois as effect follows cause. If the thousands of little lakes in the western and southern part of Minnesota should be dried up or drained, then will this arid condition be brought about. With the present climatic conditions Illinois' fields and meadows will never become a prey to these migrating hordes, to the meteorologist must the question therefore be referred for solution.

APPENDIX.

Some cuts, which were ordered for my Second Report, were accidentally omitted. For the benefit of those who have that report and also receive this, I insert them here.

THE LANCE RUSTIC. (*Agrotis ypsilon*.—Rott.)

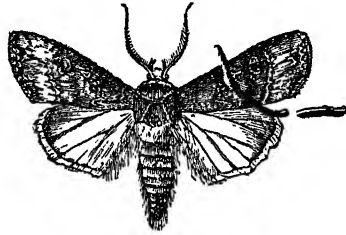


FIG. 27.

For a description of this species the reader is referred to pages 93 and 210 of my Second Report.

THE GOTHIC DART. (*Agrotis subgothica*.—Haw.)

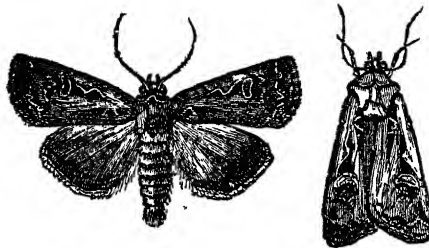


FIG. 28.

A description of this species will be found on pages 89 and 204 of my Second Report.

THE STALK-BORER. (*Gortyna nitela*.—Guen.)

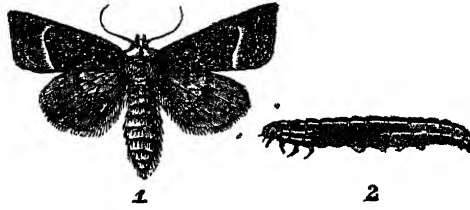


FIG. 29.

A full account and description of this well-marked pernicious species is given on pages 112 to 114, Second Report.

THE OAK-LEAF TORMENTOR. (*Argyrolepia quercifoliana*.—Fitch.)

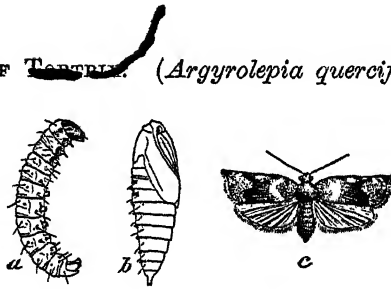


FIG. 30.

The habits, history and description of this species will be found on pages 114 to 120 of my Second Report.

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